JF VIVA

JF Viva Owner’s Handbook

GM Holden Ltd, ABN 84 006 893 232 (hereinafter Holden)

Change of name, address or ownership

In the event of a Safety Recall, or for various reasons, Holden may need to contact you as the owner of this vehicle.

If you have recently changed your address, or name, or purchased this vehicle second-hand, please help us to help you by taking a few minutes to fill in and mail the forms at the beginning of the Service/warranty booklet.

For information about GM Holden's privacy policy or to update owner details online, please visit Holden's website at www.holden.com.au

Note Please refer to the inside front cover of the Service/ warranty booklet for the Vehicle Identification Certificate.

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We thank you for choosing Holden and want to assure you of our continuing interest in your motoring pleasure and satisfaction and compliment you on your choice.

This handbook applies to all Viva models.
Due to different models and options, you may find reference in this handbook to some equipment not installed in your own vehicle.

Please note that all information, illustrations and specifications in this handbook are based on the latest production information available at the time of printing.

Holden reserves the right to make changes at any time without notice and without incurring any obligation.

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*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

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CHAPTER 1A

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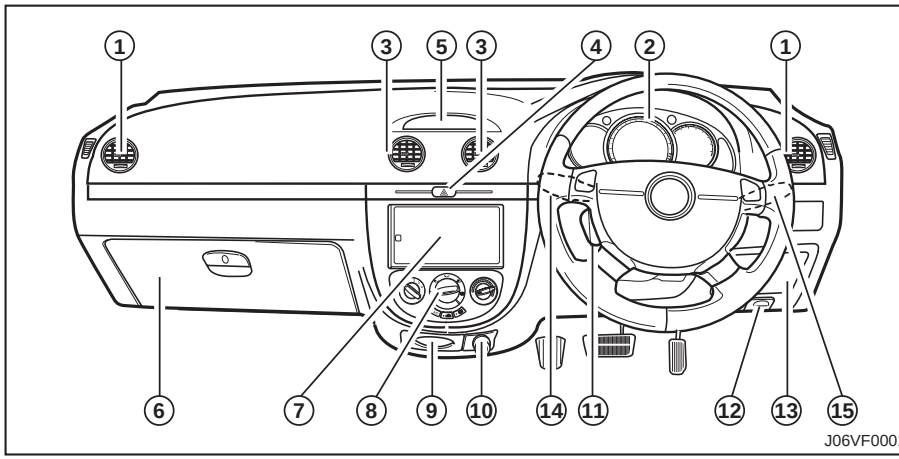
*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

LAYOUT



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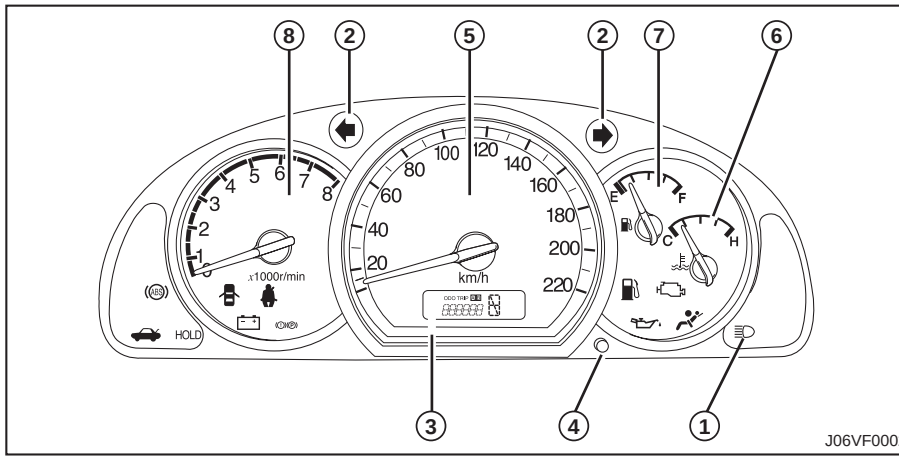
GAUGES



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Speedometer

The speedometer (5) indicates the vehicle's speed in kilometres per hour (km/h).

Odometer and tripmeter

A small window under the speedometer is used for the odometer and tripmeter (3).

The odometer records the distance travelled since the vehicle was built, and the tripmeter records the distance travelled on a particular journey. The tripmeter can keep a record of two different journeys at the same time. The two trip odometers are distinguished as **TRIP A** and **TRIP B**.

The trip odometer reset button (4) is located at the lower right-hand side of the speedometer dial.

With the ignition switched on, push the trip odometer reset button (4) to change the display between the odometer, **TRIP A** and **TRIP B**. If the trip odometer reset button is pressed for more than one second, the tripmeter resets to zero.

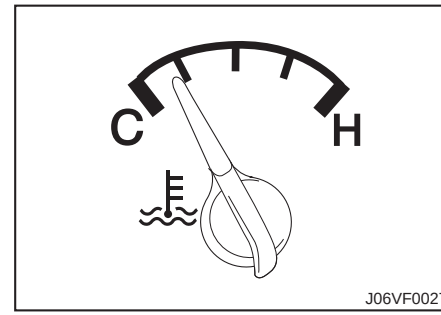
GAUGES cont.

Temperature gauge

The temperature gauge (6) indicates the temperature of the engine coolant when the ignition switch is turned to the ON position.

Stop-start driving in heavy traffic, driving at high speed in warm weather, hill climbing or towing may cause the temperature to increase. This is normal, and is no cause for concern.

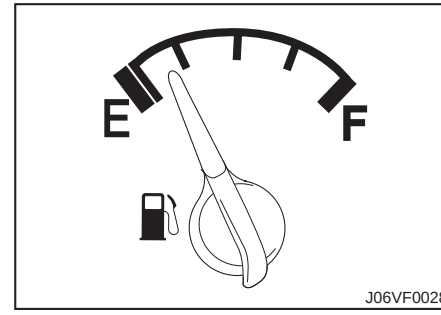
WARNING
Do not continue driving with the temperature gauge pointer in the red area, the engine is too hot. Continued operation of an overheated engine would result in severe vehicle damage. Refer to *Engine overheating* in chapter 6, for overheating instructions.



Fuel gauge

The fuel gauge (7) indicates the level of fuel within the fuel tank when the ignition switch is turned to the ON position. **F** represents full and **E** represents empty. The needle in the fuel gauge falls to **E** when the ignition switch is turned to the OFF position. The fuel tank content displays when the ignition switch is turned to ON.

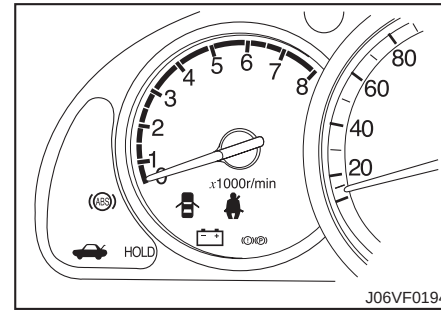
Refer to *Fuel filling* in chapter 5, for refuelling instructions.



Tachometer

The tachometer (8) indicates the engine speed in revolutions per minute (rpm). The red zone of the tachometer indicates critical engine speed.

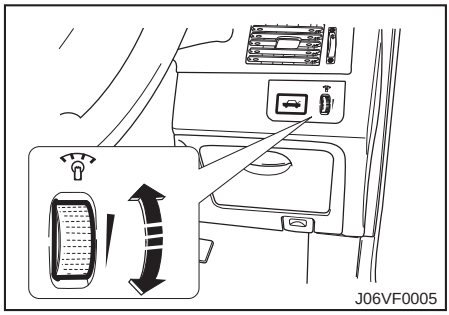
WARNING
- Never operate the vehicle with the tachometer needle in the red zone.
- Continued operation with the tachometer needle in the red zone would lead to serious engine damage.



DIMMER AND CLOCK

Dimmer – instrument lighting

To adjust the instrument lighting brightness, ensure the headlights or park lights are switched on. Turn the dimmer thumb wheel, located to the right-hand side of the steering column, to adjust the instrument lighting to the desired brightness.



Clock

With the ignition switch in the ACC (accessory) or ON position, the digital clock displays the time. The digital clock has three adjusting buttons.

H: Hour button

- To advance 1 hour, press the H button.
- To advance more then 1 hour, press and hold the H button until you reach the desired hour.

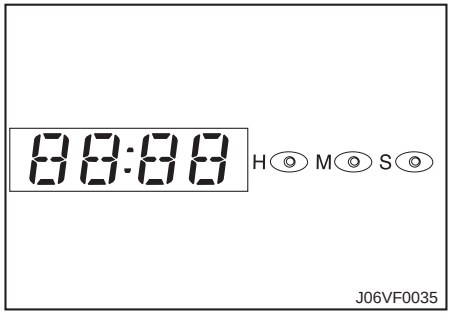
M: Minute button

- To advance 1 minute, press the M button.
- To advance more than 1 minute, press and hold the M button until you reach the desired minute.

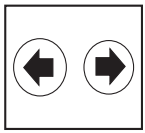
S: Set button

- To reset the time to the nearest hour, press the S button.
- If you press this button when the time is between 8:00 and 8.29 for example, the display will reset to 8:00.
- If you press this button while the time is between 8:30 and 8:59 for example, the display will reset to 9:00.

If the power supply to the clock is interrupted, then the clock will need to be reset.



WARNING LAMPS



Turn signals

When the turn signal switch or hazard warning lamp switch is switched on, the turn signal indicator lamp (within the instrument panel) flashes to indicate operation of the turn signal lamps or hazard warning lamps.

High beam

This indicator lamp is illuminated when the headlamps high beams are in use.

Oil pressure

The oil pressure lamp illuminates when the ignition switch is turned to the ON position, and will remain illuminated until the engine is started.

If the oil pressure lamp is illuminated while driving, this indicates the oil pressure is dangerously low. Stop the vehicle as soon as possible and check the engine oil level (refer to *Engine oil level* in chapter 7). Do not drive the vehicle with the oil pressure indicator lamp illuminated, consult your Holden Dealer.

Low fuel

The low fuel indicator lamp displays when the fuel tank is approaching empty. When the low fuel lamp illuminates add fuel as soon as possible.

Brake

The brake warning lamp displays when the ignition switch is in the ON position and the engine is not running, as a check to show you it is working properly.

If the brake warning lamp displays while you are driving and the park brake is fully released, you should stop the vehicle as soon as possible and consult your Holden Dealer.

WARNING
Driving with the brake warning lamp on can lead to an accident. Have the brakes checked immediately if the brake warning lamp stays on.

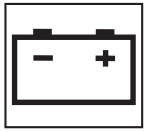
WARNING LAMPS cont.

Anti-lock brake system (ABS)*

The ABS warning lamp illuminates when the ignition switch is turned to the ON position, and goes out after a few seconds.

If the lamp comes on while driving, carefully stop the vehicle and turn off the engine. If the lamp stays on or illuminates again while driving, you should have the system checked by a Holden Dealer.

Note This lamp indicates the anti-lock braking system is not operating. The vehicle's brake system will still operate conventionally. Refer to *Anti-lock brake system* in chapter 4.



Battery

The battery warning lamp illuminates when the ignition switch is turned to the ON position, and remains on until the engine is started.

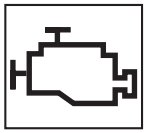
If the lamp illuminates when driving, this may indicate the generator is not charging the battery. If the generator drive belt is intact, there is a problem in the charging system and you should see your Holden Dealer.

Door ajar lamp

The door ajar lamp illuminates if any door is not fully closed, when the ignition switch is turned to the ON or START position.

Boot compartment ajar lamp (sedan only)

The boot compartment ajar lamp will come on if the boot is not completely closed.



Malfunction indicator lamp

The malfunction indicator lamp monitors the emission control system. This lamp should come on when the ignition switch is in the ON position and the engine is not running. If it stays on or comes on while you are driving, there may be a problem with this system, consult your Holden Dealer.

WARNING
If you keep driving your vehicle with the malfunction indicator lamp on, after a while, your emission control system may not work as well, your fuel economy may not be as good and your engine may not run as smoothly. This could lead to costly repairs.

WARNING LAMPS cont.

Hold mode indicator*

The hold mode indicator lamp comes on and stays on whenever hold mode is active. Hold mode allows you to shift gears similar to a manual transmission*. To return to automatic operation, press the hold switch again. If the hold mode indicator lamp flashes, have your vehicle serviced immediately.

Seatbelt reminder

When the ignition switch is turned on, the seatbelt reminder lamp comes on to remind occupants to fasten their seatbelts. A chime will also sound for approximately 6 seconds.

If the driver's belt is buckled, neither the chime nor the lamp will come on.

Airbag and seatbelt pretensioners indicator

To check if the warning lamp is working, the SRS warning lamp illuminates for a short time when the ignition switch is first turned to the ON position.

If the SRS warning lamp illuminates while driving, it indicates the airbag system or seatbelt pretensioner system may not function correctly, especially in an accident. Contact your Holden Dealer immediately.

WIPERS AND WASHERS

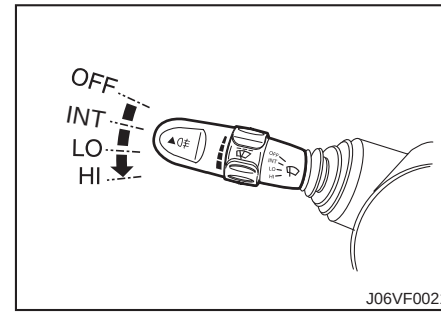
Windscreen wipers

To operate the windscreen wipers, turn the ignition switch to the ON position and move the windscreen wiper/washer lever downward.

The windscreen wipers operate in the following four positions:

- **OFF** System off. Default position.
- **INT** Intermittent operation (Turn the adjuster wheel up and down to choose the desired speed). Lever down one level.
- **LO** Continuous wipe, slow speed. Lever down two levels.
- **HI** Continuous wipe, fast speed. Lever down three levels.

Never operate the wipers on dry glass, as this would damage the rubber and scratch the windscreen. Ensure the wipers are clear of any snow or ice before switching them on.



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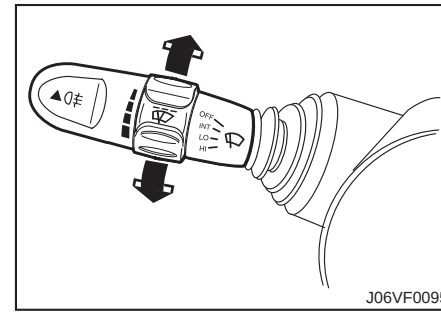
Variable intermittent windscreen wiper

The wipers operate intermittently when the windscreen wiper lever is shifted to the **INT** position. The interval between wiper sweeps can be adjusted within a range of approximately 1.5 to 15 seconds by turning the intermittent ring.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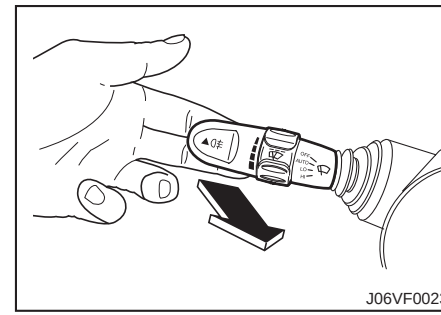
Windscreen washer

To spray washer fluid onto the windscreen, pull the windscreen wiper lever toward you. Even if the wiper setting is not selected, the washer will spray fluid and the wipers will operate for three cycles or until the stalk is released.

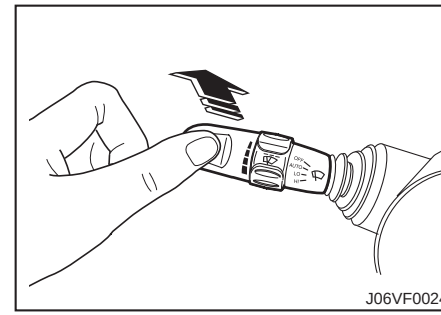

J06VF0023

WIPERS AND WASHERS cont.

Rear wiper and washer*

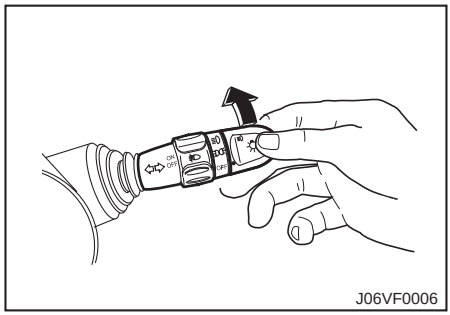
To switch the rear wiper on, push the wiper lever toward the dashboard to the first position.

To spray washer fluid push the stalk to the second position.



HEADLAMPS

Lamp switch controls



J06VF0006

The lamp switch controls the following:

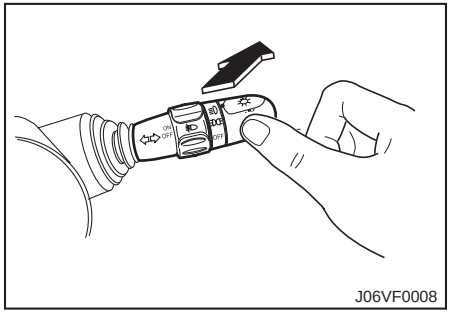
- Headlamps
- Tail lamps
- Parking lamps
- Number plate lamps
- Instrument panel lamps

Rotate the band to AUTO to switch on your parking and other operating lamps. The headlamps will not come on.

Rotate the band to ≡D to switch on your headlights. The parking and other operating lights will also come on.

If you turn the ignition to the LOCK or ACC (accessory) position, the headlamps will turn off automatically.

High/low beam



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Switching between high and low beam requires the low beam lamps to be on. Push the lever toward the front of the vehicle to switch from low beam to high beam and return the lever to the original position for low beam.

The headlamp high beam indicator lamp on the instrument panel lights up when the headlights are in high beam.

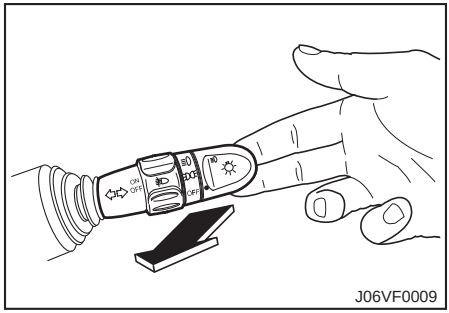
Battery saver

Battery saver is to prevent the battery from being discharged.

When you leave the lamp switch in the AUTO position, remove the key, and open the driver's door, the lights will switch off automatically.

Note If you remove the key and open the driver's door when the dome lamp is on, the dome lamp will not switch off automatically.

Flashing high beam

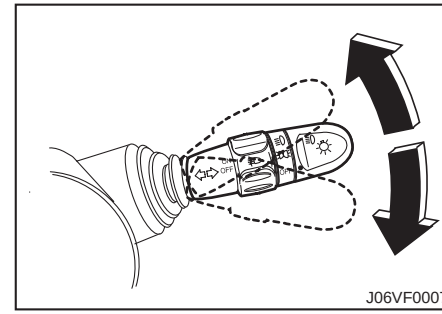


J06VF0009

It is also possible to flash the high beams for signalling purposes by pulling the lever toward you (even with the headlamps switched off). The lights remain in high beam as long as the lever is held in this position.

TURN SIGNALS AND IGNITION SWITCH

Turn signals

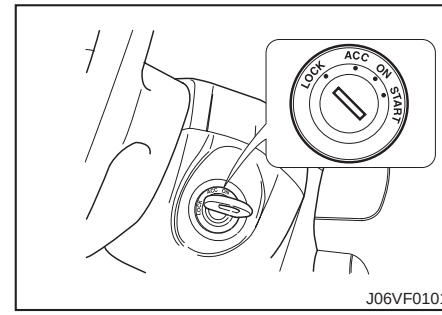


The turn signal lever is on the right-hand side of the steering column. Push the lever up to signal a left turn and down to signal a right turn.

In some turns (such as changing lanes), the steering wheel is not turned far enough to cancel the turn signal. So, to indicate a lane change, move the lever part way and hold it. The lever will return to the neutral position when you release it.

An arrow on the instrument panel flashes when the turn signals are in operation.

Ignition switch



LOCK This is the normal parking position for the ignition switch; the accessories and engine are off. The ignition key can only be removed from the ignition switch when it is in this position. When the key is removed the ignition and steering are locked. To release the steering lock, insert the key into the switch and turn the key to any other position. If you have trouble turning the ignition key to unlock the steering, turn the steering wheel slightly to the right or left while turning the key.

ACC When the ignition key is in this position, the engine is off, but accessories such as the radio can still operate. To avoid flattening the battery, avoid excessive use of accessories when the engine is not running.

ON In this position, the engine is ready to start and all electrical systems are active. Do not leave the ignition switch in this position for a prolonged period unless the engine is running, otherwise the battery will discharge.

START This is the position for starting the engine. The ignition key should be released from this position as soon as the engine starts.

WARNING
Do not switch the engine off while the vehicle is moving. Power assisted equipment such as brakes or steering, which are operated by the engine would be ineffective. Never remove the key while the vehicle is moving, as this would lock the steering.

IMMOBILISER, HAZARD WARNING AND HORN

Immobiliser

To provide additional security, your vehicle is fitted with a vehicle immobiliser. The engine will not start unless the correct key (correctly programmed) is used.

Note Any additional or replacement keys must be purchased from and programmed by a Holden Dealer.

If the immobiliser system has developed a fault or an incorrectly programmed key is used in an attempt to start the vehicle, the security warning indicator lamp would illuminate.

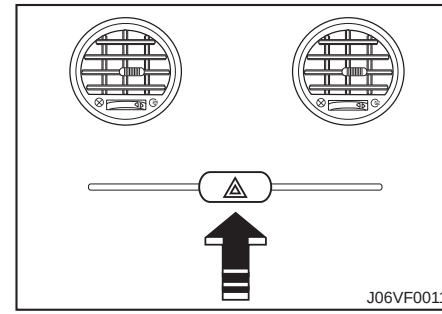
Hazard warning

Press the switch located between the two centre air vents to switch the hazard warning flasher on and off. The hazard warning flasher works regardless of the ignition switch position.

When switched on, all turn signals continuously flash.

Use the hazard warning flasher to warn other drivers any time your vehicle becomes a traffic hazard.

The use of the hazard warning flashers while the vehicle is moving may be illegal in some States.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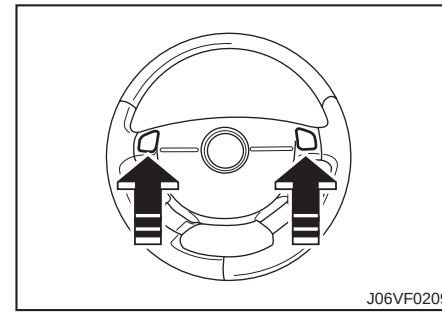
Horn

To sound the horn, press the horn symbol on either side of the steering wheel centre pad. The horn will sound regardless of ignition switch position.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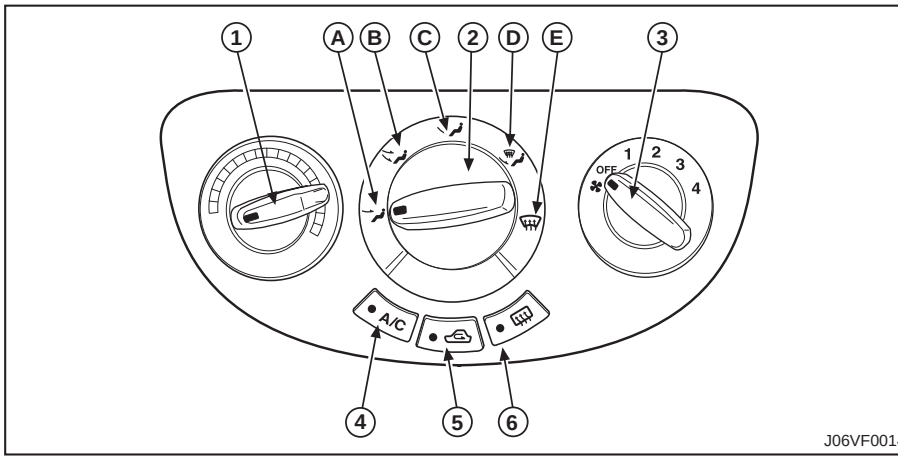
HEATING AND AIR CONDITIONING SYSTEM



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Air temperature selector

This knob controls the temperature. Turn the temperature knob to the red area for warmer air or to the blue area for cooler air.

Air outlet selector

This knob controls the air delivery mode. Turn the knob to direct air flow through the desired outlets.

Fan speed selector

This knob controls the fan speed. Turn the knob to the right to increase fan speed, or to the left to decrease fan speed. There are five fan settings: **OFF, 1, 2, 3** and **4**.

HEATING AND AIR CONDITIONING SYSTEM cont.

Air conditioning switch

Press this button to switch the air conditioning on. The engine must be running in order for the feature to work. Set the fan position to **1, 2, 3,** or **4** to begin air circulation. An indicator light illuminates on the button when the air conditioning is in use.

Note The fan must be switched on for the air conditioning to work.

Even when the air conditioning system is on, your vehicle will produce warm air if the temperature control knob is set to warm.

Press the air conditioning switch again to switch the air conditioning off.

You may notice water dripping under the vehicle sometimes after driving with air conditioning on. This is normal because your air conditioning system removes moisture from the air.

Because the compressor of the air conditioning system shares the engine power, you may notice a slight change in engine power and performance when the compressor operates.

Air recirculation switch

Press the recirculation switch to recirculate the air in your vehicle. This is useful for keeping dust and odours out or when quick heating or cooling is desired.

The indicator light in the switch illuminates.

Press the switch again to switch off the recirculation feature and allow outside air into your vehicle.

Using the recirculation setting for an extended period of time may cause the windows to fog up. If this happens, switch the recirculation feature off.

Fan off setting

When the Fan Speed Selector is turned anticlockwise all the way, the air conditioning system switches off. However, if the recirculation switch is turned off, outside air still comes into the vehicle when it is moving.

Air outlets

The direction of air flowing out of the vents can be changed by moving the airflow deflectors up, down, right or left.

Some outlets may be equipped with a shut-off dial. Rotate the dial to the left to close the outlet or to the right to open it.

HEATING AND AIR CONDITIONING SYSTEM cont.

Air outlet selector

Different vents are selected when the air selector is set in the following positions:

Air flows from the four face level outlets in the dashboard.

The blending mode directs airflow through both the dashboard outlets and the floor outlets.

This mode also directs airflow through the rear floor outlets*.

The heater mode directs most of the airflow through the floor outlets, with some air going to the windscreen and side window demister vents.

This mode also directs airflow through the rear floor outlets*.

This mode divides airflow equally between the windscreen demister outlets and the floor outlets. A small amount of air will also be directed toward the side windows.

This mode also directs airflow through the rear floor outlets*.

Air flows from the window demist and windscreen demist outlets with a small amount from the side outlets.

Operating tips

- To conserve fuel, switch off the air conditioner when it is not required.
- Keep the area under the front seat clear of objects to help air circulate through the vehicle.
- In hot weather before using the air conditioning system, open the windows for a few minutes to permit hot air to escape if the vehicle has been parked in direct sunlight.
- For maximum cooling, select the ventilation mode and the highest fan speed. Make sure the air conditioning is turned on. Rotate the temperature control knob to select the coolest temperature and activate the recirculation mode.
- Switch on the air conditioning for a few minutes at least once a week, even in the winter or when the air conditioning system is not being used regularly. This maintains proper lubrication of the compressor and seals, prolonging the service life of the system.
- Driving in stop-and-go traffic may reduce the effectiveness of the air conditioning system.
- To quickly demist the front windscreen, use the demister mode, set the temperature to warm, and set the fan at the highest speed.
- For improved demisting of the windows on rainy days or in high humidity, switch the air conditioning on.

HEATING AND AIR CONDITIONING SYSTEM cont.

- Windscreen demister mode will operate with the air conditioner on or off.
- Do not use the heating/demisting mode or the demisting mode in extremely humid weather when the temperature control is set to cold.
- If occupants are smoking, it is recommended that recirculation is not used.
- When following another vehicle on dusty roads, or to prevent exhaust fumes or odours entering your vehicle, select recirculation and close the windows.
- When driving on unsealed roads but where the dust is not airborne, select fresh air (with the windows closed) and set the fan preferably on a high speed so that positive air pressure in the vehicle will prevent any dust entry.

Rear window demister

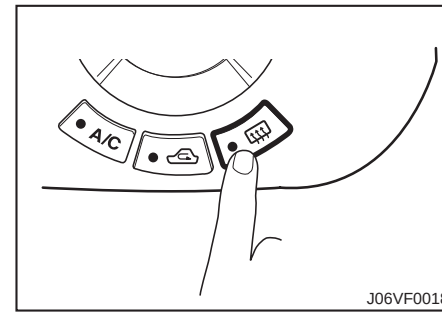
WARNING
Less than clear vision for the driver can lead to an accident resulting in personal injury and damage to your vehicle or other property.

The ignition must be switched on for this feature to work.

Press this button to demist your rear window. To switch it off press the button again. Otherwise, it will go off by itself after ten minutes. To turn back on just press the button again.

The outside mirrors are heated when ever the rear demister is activated.

The indicator lamp in the button illuminates when the system is on.



Note Do not use the rear window demister under the following conditions:

- Engine is not running.
- You are just starting your vehicle.
- There is a buildup of snow or ice on the rear window.

Operating the rear window demister under these conditions could drain the battery. This can damage your vehicle, requiring the replacement of some parts.

Passenger compartment pollen filter

A passenger compartment pollen filter is fitted to filter outside air entering the vehicle.

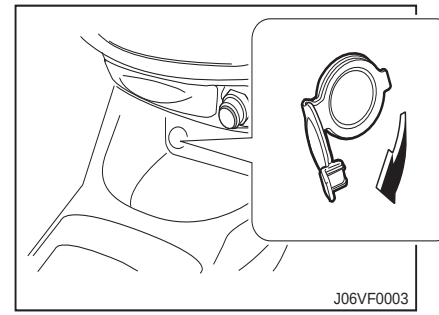
The filter removes contaminants such as pollen and dust from the air entering the vehicle.

Proper maintenance of the passenger compartment pollen filter is required. Refer to the Service/warranty booklet.

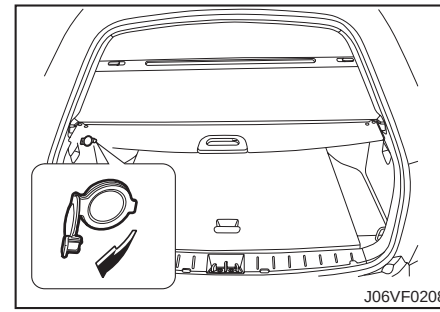
ACCESSORY POWER OUTLET AND CIGARETTE LIGHTER

Accessory power outlet

The accessory power outlet is located near the ashtray in the dashboard. On the wagon model, an additional power outlet is located in the side wall of the rear cargo area. Outlets can be used to plug in electrical equipment such as a mobile telephone, CB Radio, etc. To plug in auxiliary electrical equipment, flip the outlet cover open as illustrated and follow the installation instructions that are included with any electrical equipment you install. These circuits are protected by a fuse and have maximum current loads. When not in use, always cover the outlet with the protective cap.


J06VF0003

The ignition switch must be in the ON or ACC (accessory) position for this feature to work.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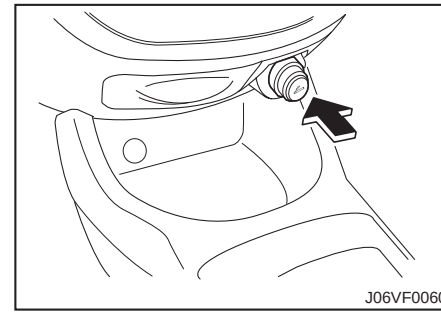
WARNING

When using all accessory power outlets, the total maximum electrical load must not exceed 12 Volts or 10 amps. Always switch off any electrical equipment when not in use. Leaving electrical equipment on for extended periods with the engine stopped will drain the battery.

Cigarette lighter

To use the cigarette lighter, push it in and wait for it to pop out.

The ignition switch must be in the ON or ACC (accessory) position for this feature to work.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WARNING

The barrel of an operating cigarette lighter can become very hot. It can cause personal injuries and damage to your vehicle or other property.

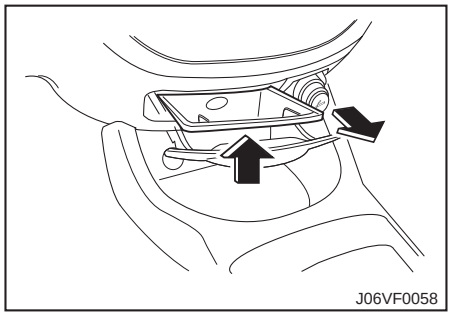
Do not touch the barrel of the cigarette lighter and do not allow children to operate or play with the cigarette lighter.

ASHTRAY AND GLOVEBOX

Ashtray

The ashtray should only be used for ash, not for combustible rubbish.

To empty the ashtray, pull open the ashtray, then lift the ashtray liner up and out.

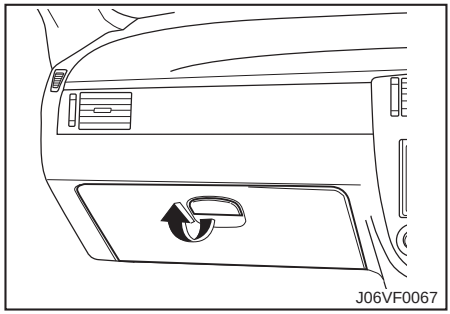


Glovebox

The glovebox is located on the passenger side of the dashboard.

The glovebox can be opened by pulling the handle. Push the lid shut to close the glovebox.

You can use the ignition key to lock the glovebox, turn the ignition key clockwise to lock, and anticlockwise to unlock.



Glovebox cooling

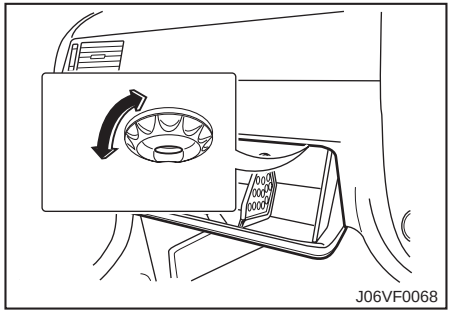
The glovebox is air conditioned to keep snacks fresh while you are travelling. Use the adjustment wheel inside the glovebox to open or close the cooled air hole.

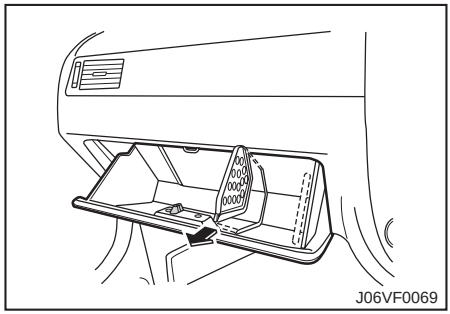
Cool air is sent into the glovebox through a vent when the air conditioning is switched on.

If glovebox cooling is not required, close the vent by turning the adjustment wheel anticlockwise.

To store larger items, remove the inner partition and store it in the right side groove of the glovebox.

Note In cold weather, cold air will flow through the glovebox vent when the recirculation feature is switched off, allowing outside air to flow in. If glovebox cooling is not required, close the vent.

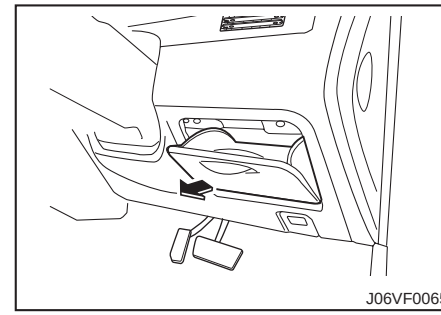




STORAGE COMPARTMENT AND BONNET RELEASE

Storage compartment

Pull the cover downward to open the small pocket, located on the lower, driver's side of the dashboard.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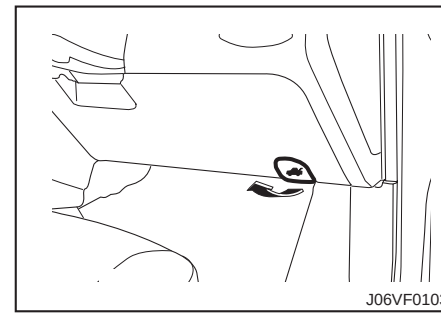
Bonnet release

The bonnet release lever is located inside the vehicle, under the driver's side of the dashboard. To release the bonnet pull the lever toward you. The bonnet releases but is prevented from opening fully by a safety catch.

To open the bonnet completely, reach in under the centre of the bonnet and move safety catch to the left, then raise the bonnet.

To hold the bonnet in the open position, insert the support rod into the slot provided.

Before closing the bonnet, return the support rod to its clip in the radiator grille and lower the bonnet down. Lower the bonnet gradually until nearly closed, and then drop it to close fully under its own weight.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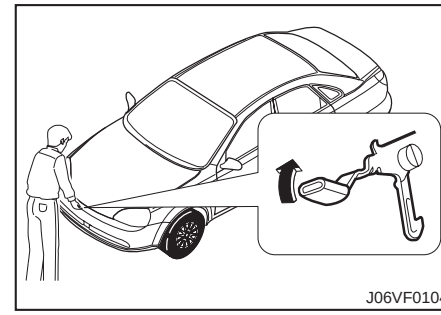
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CHAPTER 1B

Audio

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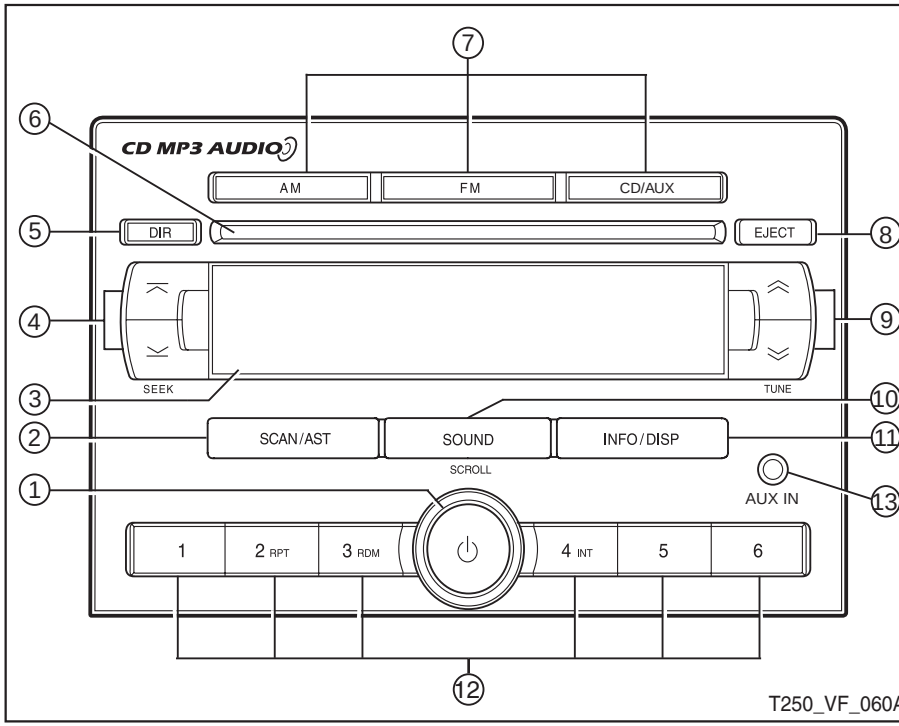
*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

AUDIO SYSTEM

AUDIO CONTROLS

Front panel

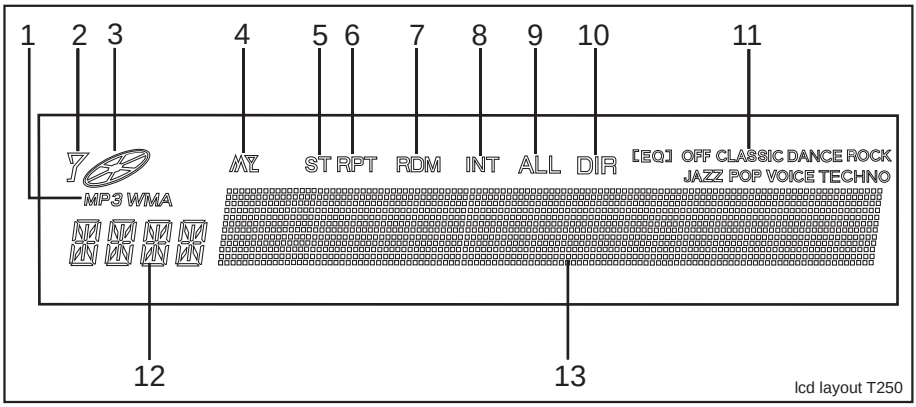


Display and functions:

1. Power/volume and mute rotary button
2. SCAN/AST button
3. Display screen
4. Seek tuning buttons
5. Directory button
6. CD/MP3 disc slot
7. Input source buttons
8. Disc eject button
9. Tune and previous/next buttons
10. Sound mode selection button
11. INFO/DISP button
12. Preset radio station buttons and CD/MP3 mode function buttons:
    - Repeat play button
    - Random play button
    - Intro scan button
13. Auxiliary input socket

AUDIO SYSTEM cont.

AUDIO DISPLAY SCREEN



Display and layout:

1. MP3/WMA disc play indicator
2. Radio mode indicator
3. Disc insert indicator
4. Weak FM signal indicator
5. FM stereo ON indicator
6. Repeat function indicator
7. Random scan function indicator
8. Intro function indicator
9. MP3 play mode indicator (All directories on the disc)
10. MP3 play mode indicator (Directory of the disc only)
11. Equalizer mode indicator
12. Mode indicator CD, AUX, MP3 or FM/AM
13. Alphanumeric display screen

AUDIO SYSTEM cont.

The audio system includes an AM - FM Radio, MP3/CD player and an auxiliary input allowing for external portable devices to be connected.

SECURITY CODE

Your audio unit includes an electronically coded security system. This security system relies on a unique PIN Code indicated on your security card, to enable operation of your audio unit. The PIN Code will only need to be entered if the vehicle's battery has been disconnected or if the audio unit has been removed from the vehicle. Refer to the security release procedure for the instructions of this procedure.

As the PIN Code is the only means of enabling operation of the audio unit, we recommend that the Security Card is kept in a secure location.

Do not leave the security card in the glovebox of your vehicle.

The PIN Code should be written down and kept with other important documents.

If the Security Card is lost and the PIN Code has not been recorded, the PIN Code can be requested from your GM Holden Dealer. Proof of ownership will be requested before the PIN Code is supplied. There may be a charge for this service.

Security release procedure

Audio system PIN code:

1. Switch the ignition to the "ON" position.
2. Switch on the audio system, if turned off.
3. The display will flash 'CODE - - - -'
4. Enter the PIN Code obtained from the Security Card using the preset buttons.

Example:

If the PIN Code belonging to the audio system is 3651.

	Display
Press preset button 3	CODE - - - 3
Press preset button 6	CODE - - 36
Press preset button 5	CODE - 365
Press preset button 1	CODE 3651

5. After a short pause the audio system will become active.

AUDIO SYSTEM cont.

CONTROL BUTTONS

Power on

When the power is OFF press the ⏻ power/volume and mute rotary button ❶ to activate the audio system. The radio, CD or MP3 function will be shown on the display screen. The operating mode will be the same as before the audio system was turned off.

Volume mute

When the power is ON press the ⏻ power/volume and mute rotary button ❶ briefly to activate the audio mute function. The mute function can be deactivated by selecting a new function.

Power off

When the power is ON press and hold the ⏻ power/volume and mute rotary button ❶ to turn the system OFF.

Volume control

Rotate the ⏻ power/volume and mute rotary button ❶ clockwise to increase the volume and anticlockwise to decrease the volume. The volume level will appear as a numeric value on the display screen ❸.

After a period of 5 seconds of inactivity, the display screen will return to the original content.

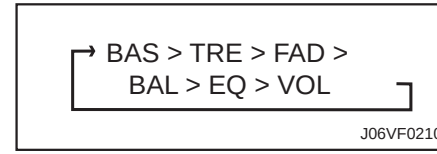
Sound mode selection

To select the required sound mode, press the SOUND sound mode selection button ❿.

The sound mode indicator and the numeric signal value will appear on the display screen ❸. Each time this button is pressed, the sound mode function changes shown.

When the desired mode is displayed, adjustment is achieved by rotating the ⏻ power/volume and mute rotary button ❶.

After a period of 5 seconds of inactivity, the display screen will return to the original content.



Note

- The audio system can be operated with the ignition key in the “ACC” or “ON” position.
- The disc eject button ❽ remains active to allow a disc to be ejected after the power has been turned off.

The audio system can be activated by:

- Pressing the power/volume and mute rotary button.
- Inserting a CD or MP3 disc.
- Pressing the AM or FM buttons.
- Pressing the CD/AUX button.

AUDIO SYSTEM cont.

Bass control

Bass control is used to adjust the bass (low frequency) sound quality.

1. Select the bass control mode using the SOUND sound mode selection button ❿.
2. When "BAS" appears on the display screen ❸, rotate the ⏻ power/volume and mute rotary button ❶ clockwise to increase the bass level, anticlockwise to decrease the bass level. The bass level is displayed as a number between -5 to +5. "0" indicates the mid-point sound level. The highest bass level is displayed as "+5" and the lowest bass level is displayed as "-5".

After a period of 5 seconds of inactivity, the display screen will return to the original content.

Treble control

Treble control is used to control the treble (high frequency) sound quality.

1. Select the treble control mode using the SOUND sound mode selection button ❿.
2. When "TRE" appears on the display screen ❸, rotate the ⏻ power/volume and mute rotary button ❶ clockwise to increase the treble, anticlockwise to decrease the treble. The treble level is displayed as a number between -5 to +5. "0" indicates the mid-point sound level. The highest treble level is displayed as "+5" and the lowest treble level is displayed as "-5".

After a period of 5 seconds of inactivity, the display screen will return to the original content.

Fader control

Fader control adjusts the volume separation between the front and rear audio speakers.

1. Select the fader control mode using the SOUND sound mode selection button ❿.

   The display screen ❸ will show FAD front or rear depending on the last setting used.
2. Rotate the ⏻ power/volume and mute rotary button ❶ clockwise to bias the volume toward the front speakers.

   The fader level display will change from "FRONT 01" to "FRONT 15".
3. To bias the volume toward the rear speakers, rotate the ⏻ power/volume and mute rotary button ❶ anticlockwise.

   The fader level display will change from "REAR 01" to "REAR 15".

   When the fader level display shows "FAD 0", the volume level is centred between the front and rear speakers.

After a period of 5 seconds of inactivity, the display screen will return to the original content.

AUDIO SYSTEM cont.

Balance control

Balance control adjusts the volume separation between left and right audio speakers.

1. Select the balance control mode using the [SOUND] sound mode selection button ❿.
   The display screen ❸ will show BAL right or left depending on the last setting used.
2. Rotate the ⏻ power/volume and mute rotary button ❶ clockwise to bias the volume to the right audio speakers.
   The balance level display will change from “RIGHT 01” to “RIGHT 15”
3. To bias the volume to the left speakers, rotate the ⏻ power/volume and mute rotary button ❶ anticlockwise.
   The balance level display will change from “LEFT 01” to “LEFT 15”.
   When the balance level display shows “BAL 0”, the volume level is centred between the left and right audio speakers.

After a period of 5 seconds of inactivity, the display screen will return to the original content.

EQ music style control

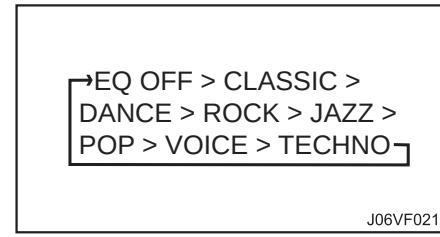
EQ is used to select between pre-defined sound equaliser settings.

1. Select the EQ control mode using the [SOUND] sound mode selection button ❿.
2. When the current EQ mode appears on the display screen, rotate the ⏻ power/volume and mute rotary button ❶ clockwise or anticlockwise to change the EQ music style.

Each time the power/volume and mute rotary button ❶ is rotated, the EQ mode will change as follows:

Note The current EQ mode is shown on the display screen.

After a period of 5 seconds of inactivity, the display screen will return to the original content.



RADIO OPERATION

1. Press the ⏻ power/volume and mute rotary button ❶.
2. Press the [AM] input source button ❼ to select AM1, AM2 or AM-A.
3. Press the [FM] input source button ❼ to select FM1, FM2 or FM-A.

AUDIO SYSTEM cont.

Manual tuning

1. Choose either AM or FM band using the AM or FM input source buttons ❼.
2. Use the tune and previous/next buttons ❾ to increase or decrease the frequency one step at a time. The frequency of the AM band changes in 9 KHz increments and the frequency of the FM band changes in 0.1 MHz increments.

Automatic tuning

1. Use the seek tuning buttons ❹ to search for a receivable station.
2. To search for the next receivable station push and hold for more then one second either seek up or down arrow.

Automatic tuning sensitivity

When a seek tuning search is initiated, the radio automatically searches for the stronger (local) stations. After the radio has searched the entire band range once (i.e. 87.5 - 108.0 MHz for FM and 522 - 1710 kHz for AM), it will automatically switch to searching for all stations (including weaker stations).

Scan tuning

Press the SCAN/AST scan button ❷ to scan for receivable stations. The indicated station will be displayed for 5 seconds after which the next receivable station will be displayed. Scan tuning can be stopped by initiating any other mode of tuning.

Preset tuning

To select a preset station stored on the preset buttons in FM1, FM2, FM-A, AM1, AM2 and AM-A bands, press the corresponding preset radio station button ⓬ for less than 1 second.

HOW TO STORE THE STATIONS

Auto store

The SCAN/AST scan button ❷ enables stations to be stored automatically.

1. When the SCAN/AST scan button ❷ is pressed for more than 2 seconds, it will scan the entire band range and store the 6 strongest stations by order of frequency, on the AM-A or FM-A band.

The display screen ❸ will show “AST SCANNING” the word “SCANNING” will be flashing. Stored stations will flash for a short time on the display screen in sequence.

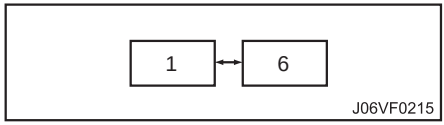
Once all the stations have been displayed, preset station 1 will play on the respective auto store band. Press the AM or FM buttons to cancel automatic store.

Note AM-A and FM-A represent the auto store preset stations for the respective band.

AUDIO SYSTEM cont.

Manual memory

1. Tune in the desired station using any of the tuning modes listed under “How to tune a station”.
2. Press and hold the desired preset radio station button ⓬ for longer than 2 seconds.

   The radio will mute and a short chime will be heard when the station has been set.

   A maximum of 18 FM stations can be stored in this way; six on each of the FM-1, FM-2 and FM-A bands.

   A maximum of 18 AM stations can be stored in this way; six on each of the AM-1, AM-2 and AM-A bands

Note Any stations manually stored on AM-A or FM-A will be over written by auto store function.

CD PLAYER OPERATION

1. Press the ⏻ power/volume and mute rotary button ❶ or insert a CD to activate the audio system.
2. If no CD is in the CD/MP3 disc slot insert a CD, label side upwards into the CD/MP3 disc insert slot ❻.

The audio system will automatically begin playing the CD disc from the first track.

3. If a CD is already inserted in the disc insert slot ❻, press the CD/AUX CD/AUX input source button ❼. If a CD had previously been played, then the audio system will automatically continue from the last track you listened to.
4. To eject the CD, press the EJECT disc eject button ❽. The CD can be ejected when the audio system or ignition is turned off.

If an ejected CD disc is not removed from the disc insert slot ❻ within 10 seconds of being ejected, the CD disc will automatically reload.

After the automatic reload the audio system will not revert to CD playback but will remain on the current mode of operation.

5. The CD play back will toggle between CD source and auxiliary input source by pressing the CD/AUX CD /AUX input source button ❼.

After the CD is ejected the audio system will revert to the last used operating mode.

Track search

Use the tune and previous/next buttons ❾ to make quick selections of audio tracks from your CD.

1. To skip the current CD audio track being played for the next or preceding available track, press the tune and previous/next buttons ❾ up or down arrows for less than 1 second.

   Each time you press the tune and previous/next button ❾, the audio system skips to the next or preceding CD audio track.

AUDIO SYSTEM cont.

Cue and review

This function allows desired point-search within an audio track at a faster than normal playback speed.

1. To search for the desired point within the audio track, press and hold the tune and previous/next buttons ❾.

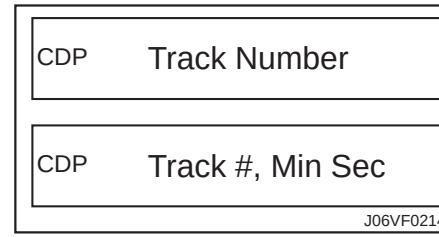
   The audio volume is automatically reduced and the CD will play at a rate 6 times faster than normal playback speed.

2. When the CD reaches the desired point within the audio track, release the tune and previous/next buttons ❾ and normal play speed will resume.

CD display

The INFO/DISP INFO/DISP button ⓫ allows switching between two different available display modes for CD playback.

The display screen ❸ will toggle between these two displays with each press and hold of the INFO/DISP INFO/DISP button ⓫.



Repeat play

1. To repeatedly listen to the current CD audio track, press the 2 RPT button grouped with the preset radio station and CD/MP3 mode function buttons ⓬.

   "RPT" will appear on the display screen ❸ and the current audio track will be played repeatedly until the function is cancelled.

Random play

1. To play a CD audio tracks in random order, press the 3 RDM button grouped with the preset radio station and CD/MP3 mode function buttons ⓬.

   "RDM" will appear on the display screen ❸ and the audio system will play the CD audio tracks in random order.

   By using the track search function while the audio system is in random mode, will initiate a new random play selection of audio tracks is initiated.

Note To cancel RPT, RDM or INT either press the same button again or choose one of the other two modes.

AUDIO SYSTEM cont.

Track introduction

1. To quickly and conveniently scan the CD disc for a desired audio track, press the 4 INT button grouped with the preset radio station and CD/MP3 mode function buttons ⓬. "INTRO" will appear on the display screen ❸ and the audio system will play the first few seconds of each audio track on the CD disc.
2. When the desired audio track introduction is played, press the 4 INT button grouped with the preset radio station and CD/MP3 mode function buttons ⓬ again and normal playback will resume. If no audio track is selected after the introductions have been played, the system will revert to normal play mode from the track that initiated the "INTRO" function.

MP3 PLAYER OPERATION

1. Press the ⏻ power/volume and mute rotary button ❶ or press the CD/AUX input source button ❼ or insert an MP3 disc to activate the audio system.
2. If no MP3 disc is in the CD/MP3 disc slot insert a MP3 disc, label side upwards into the CD/MP3 disc slot ❻.

   The audio system will automatically begin playing the MP3 disc from the first file.
3. If a MP3 disc is already inserted in the CD/MP3 disc insert slot ❻, press the CD/AUX CD input source button ❼. If a MP3 disc had previously been played, then the audio system will automatically continue from the last track you listened to.

   "MP3" will appear on the display screen ❸.
4. To eject the MP3 disc, press the EJECT disc eject button ❽.

   If an ejected MP3 disc is not removed from the disc insert slot ❻ within 10 seconds of being ejected, the MP3 disc will automatically reload.

   After the automatic reload the audio system will not revert to MP3 playback, but will remain on the current mode of operation.

   After the MP3 disc is ejected the audio system will revert to the last used operating mode.

Note

- This audio system will support the playback of audio files recorded on various formats of recordable media. These include CD-R and CD-RW.
- The ability of the audio system to play back the recorded audio files is dependant on a number of factors. These include:
  - The type of CD-R/CD-RW media used.
  - The surface condition of the CD.
  - The condition of the CD writer used to produce the CD.
  - The software used to produce the CD.
- If a recorded CD with a non-MP3 format audio file is inserted into the audio unit the message "DISC ERROR" will be displayed.
- The audio system will handle WMA files in the same way as MP3 files.

AUDIO SYSTEM cont.

MP3 file name display

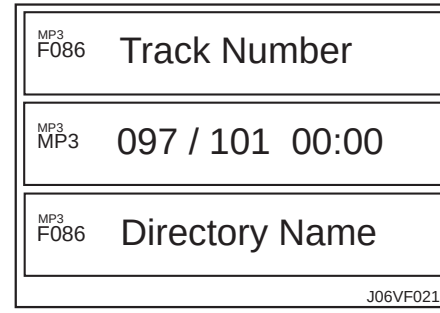
When a disc is inserted into the disc insert slot ❻ the audio system checks which type of media, audio CD or MP3 is inserted. The type of media will appear on the display screen ❸.

If an MP3 disc has been inserted, the audio file name and track number will appear on the display screen ❸. The file name will be displayed in a scrolled manner. Track names longer than 32 characters will be shortened.

The file name will only be displayed if the MP3 disc has been created with the track title function activated.

MP3 display mode button

1. To change the information appearing on the display screen ❸ while the audio system is in MP3 mode, press and hold the INFO/DISP INFO/DISP button ⓫.
2. The display screen ❸ will toggle between these three displays with each press of the INFO/DISP INFO/DISP button ❸.



Directory mode selection button

1. The DIR directory button ❺ toggles between the entire MP3 disc and the selected file album/directory. When “DIR” appears on the display the current MP3 audio album/directory will be played repeatedly until the function is cancelled.

   When “ALL” appears on the display, all tracks on the disc will be played in sequence.

Repeat play

1. To repeatedly listen to the current MP3 audio file, press the 2 RPT button grouped with the preset radio station and CD/MP3 mode function buttons ⓬.

   “RPT” will appear on the display screen ❸ and the current audio file will be played repeatedly until the function is cancelled.

Note

- When “DIR” appears on the display, the RPT, RDM, INT functions will be performed on the selected album/directory.
- When “ALL” appears on the display the RPT, RDM, INT functions will be performed on the entire MP3 disc.

AUDIO SYSTEM cont.

Random play:

1. To play MP3 disc audio files in random order, press the [3 RDM] button grouped with the preset radio station and CD/MP3 mode function buttons ⓬. “RDM” will appear on the display screen ❸.

   By using the track search function while the audio system is in random mode, a new random play selection of audio files is initiated.

Note To cancel RPT, RDM or INT either press the same button again or choose one of the other two modes.

Track introduction

1. To quickly and conveniently scan the MP3 disc for a desired audio file, press the [4 INT] button grouped with the preset radio station and CD/MP3 mode function buttons ⓬. “INTRO” will appear on the display screen ❸ and the audio system will play the first few seconds of each audio file on the MP3 disc.
2. When the desired audio file introduction is played, press the [4 INT] button grouped with the preset radio station and CD/MP3 mode function buttons ⓬ again and normal playback will resume.

   If no audio file is selected after the audio file introductions have been played, the audio system will revert to normal play mode from the audio file that the “INTRO” function was initiated from.

MP3 file up and down

This function enables you to quickly select an MP3 audio file from your MP3 disc.

1. To skip the current MP3 audio file for the next or preceding file, press the tune and previous/next buttons ❾ up or down arrows, for less than 1 second. Each time you press the tune and previous/next track buttons ❾ the audio system skips to the next or preceding available MP3 audio file.
2. Pressing and holding the tune and previous/next track buttons ❾ for more than 1 second will increase the track skipping speed until the button is released.

Directory up and down

For this function to operate, the MP3 disc must be recorded with multiple audio file directories or albums.

1. To change the directory, press the seek tuning buttons ❹. The selected directory will appear briefly on the display screen ❸. The display will then revert to the original selected display mode.

   If the MP3 disc does not have any directories, it will be treated as one directory called root directory.

Once the first or last directory/album is exceeded, the audio system will roll to the opposite end of the directory structure then automatically start playing the first MP3 file within that directory.

Note The audio system is designed to support multi-session recorded MP3 CD discs. However there may be a brief delay before playback begins.

AUDIO SYSTEM cont.

AUXILIARY MODE OPERATION

This function enables you listen to audio contents from external portable devices that are connected to the auxiliary input socket located on the front of the audio system panel.

1. Connect the output socket of the portable device to the auxiliary input socket ⓭ on the audio system front panel.
2. Switch on the portable device.
3. Press the CD/AUX button to select the auxiliary function.
4. Control the volume using either the portable device or the volume control on the audio system front panel.

Using the auxiliary input socket

The auxiliary input socket can also accept a mobile phone connector. When a mobile phone is connected to the auxiliary input socket you will be able to hear the received conversation through the vehicle's audio system.

The auxiliary input socket is not an audio output, do not connect headphones into the audio system front panel.

To use an external portable device you will need a 3.5 mm stereo male connector and a lead to the portable device.

Press the CD/AUX (CD/Auxiliary) button once to play a CD. Press this button again to begin playing audio from the connected external portable device. Once in this mode "Aux input" will appear on the audio system display.

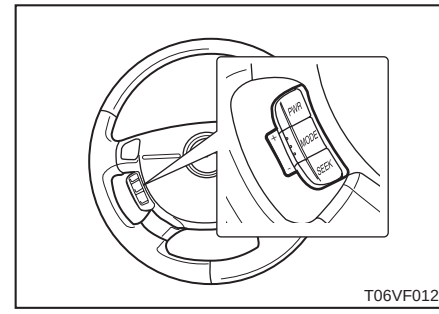
Rotate the ⏻ power/volume knob clockwise or anticlockwise to increase or decrease the volume of the portable player. You may need to make additional volume adjustments to the external portable device if the volume is not loud or soft enough.

WARNING
Do not set up or operate portable devices while the vehicle is being driven.

STEERING WHEEL REMOTE CONTROL OPERATION

Power button ON/OFF and mute function

1. To turn the audio system ON using the steering wheel remote control, press the PWR button.
2. Pressing the power button again will enable the mute function or disable the mute function.
3. To turn OFF the audio system, press and hold the power button.



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AUDIO SYSTEM cont.

Mode button/transition

1. To change the mode function using the steering wheel remote control, press the MODE button.

   Each time the MODE button is pressed, the mode function will change in the sequence shown.

SEEK button: in radio mode

Next preset station:

1. Press the SEEK button for less than 0.5 second to select the next preset station.

Seek tuning up:

1. To automatically select the next strongest radio frequency from the current frequency, press and hold the SEEK button for more than 0.5 second.

SEEK button: in CD mode

Track up:

1. To play the next available audio track on the current CD press the SEEK button once for less than 0.5 second.

   Each time the SEEK button is pressed, the audio system will advance to the next available audio track.
2. If the SEEK button is pressed when the last audio track on a CD is being played, the audio system will return to the first audio track on that CD.

Cue (fast forward):

1. To search for a point within the current audio track being played, press and hold the SEEK button for more than 0.5 second.

   The playback will increase speed to 6 times normal playback speed.
2. Normal playback will resume when the SEEK button is released.

Volume UP and DOWN button

1. To increase the audio system volume, press the + button.

   The volume will increase and the volume level will be shown in the display screen ❸. The maximum volume level that can be displayed is 50.
2. To decrease the audio system volume, press the - button.

   The volume will decrease and the volume level will be shown on the display screen ❸.

AUDIO SYSTEM cont.

GENERAL INFORMATION

Audio system faults

In case of faulty operation, consult your GM Holden Dealer.

Antenna

In some vehicles there is a rear window antenna installed. Refer to *Interior lamps and antenna* in chapter 3. The antenna is part of the heated rear window demister pattern. This type of antenna may be adversely affected by dirt on the inside of the window. Do not place any type of sticker over the antenna pattern.

Radio reception

Due to varying reception locations, audio systems have performance limitations that may on occasions create the impression that your radio is malfunctioning.

AM and FM

There are two types of radio broadcasts in Australia. Amplitude Modulation (AM) in which the amplitude of the signal is varied to produce the sound and Frequency Modulation (FM) in which the frequency is varied to produce the sound.

Range

AM broadcasts tend to follow the earth's curvature and also reflect from the upper atmosphere which enables long range reception especially after sunset.

FM transmissions are basically line-of-sight (similar to TV signals) and are reflected by buildings, mountains etc. but not by the upper atmosphere.

Interference

Interference is caused by local electrical disturbances. This can affect the amplitude of the signal being received.

AM signals are more prone to this type of interference than FM signals. This type of interference has little or no effect on the frequency of the received signal thus AM is susceptible to interference from power lines, fluorescent lighting, neon signs, traffic light control circuits, overhead tram wires and electrical storms.

With FM reception these amplitude variations are filtered out leaving a relatively clear signal, (refer to *Peculiarities of FM mobile reception* on the following page) making this one of the major advantages of FM broadcasts.

AUDIO SYSTEM cont.

Peculiarities of FM mobile reception

A mobile FM receiver can not be expected to continuously provide the quality of FM reception you may have experienced on your home receiver. Contrary to popular opinion, FM broadcasts are not static free, and although your new radio has a built-in electronic interference absorption circuit some static will be evident from time to time especially in areas without a direct line of sight to the transmitter.

Your radio is also equipped with a soft mute function. The purpose of this is to attenuate the treble and audio level in weak signal areas to reduce the annoying background hiss which is customary to weaker FM reception. There are two phenomena peculiar to FM reception:

- **Flutter** – As FM signals reflect off solid objects it is possible to pass through areas of "SHADOW" caused by tall buildings or hilly terrain which effectively blocks out the signal. As the vehicle passes in and out of shadow areas the level of signal will vary at a rapid rate, creating a flutter type of interference to the signal.
- **Distortion (multipath)** – Distortion may occur when the direct signal from the transmitter and a reflected signal reach the antenna at the same time and either cancel or aid each other, like ghosting on a TV. This results in intermittent distortion of the signal while moving or constant distortion when stationary such as at a traffic light or when parked.

Should this distortion occur while stationary, moving the vehicle approximately 1 or 2 meters would on most occasions correct the problem. Circuitry has also been included in this radio to reduce this type of distortion.

CARE OF YOUR AUDIO SYSTEM

Your audio system has been developed and manufactured with great care and should be treated with care.

Observing the recommendations listed below will prevent your warranty from expiring prematurely and ensure your enjoyment for many years. Heed the following when using your audio system:

Never try to open the audio system. Improper handling may damage the audio system.

Never user aggressive chemicals, cleaning liquids or agents to clean the audio system. To clean your audio system, use a soft cloth moistened with a mild soap solution.

Do not paint or colour the audio system. Paint may make moving parts sticky and impair correct functionality.

Do not store combustible liquids, gases or explosives in the same room with the audio system, its parts or accessories.

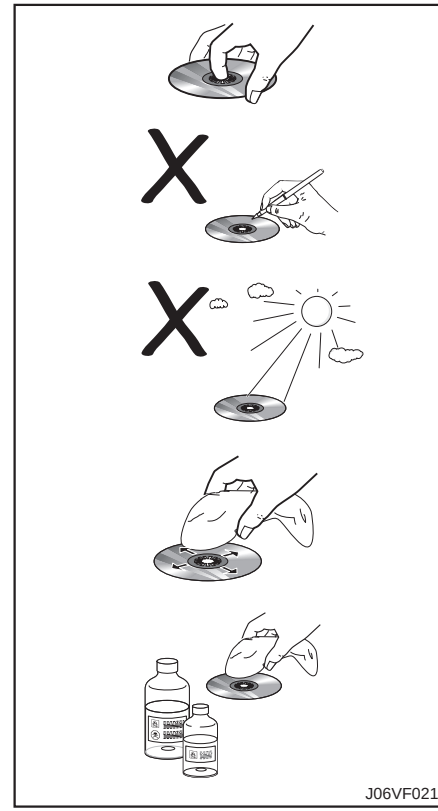
The audio system should only be serviced by an approved repairer. Incorrect installation or servicing of the audio system may have dangerous consequences and result in your warranty becoming void.

AUDIO SYSTEM cont.

Care of your CD

- Handle the CD by its edge and avoid touching the playing surface.

  Directly after removal from the CD/MP3 slot, place the CD into the CD cover to prevent damage or soiling.
- Do not stick paper or tape or write on either surface.
- Do not expose the CD to direct sunlight or a heat source for example, a hot air duct.
- Dirt and liquids on CDs may soil the audio systems CD player lens resulting in malfunction.
- Before inserting a CD into the audio system, clean the CD with a cleaning cloth. Wipe the CD from the centre outwards, rather than in a circular motion. See illustrations.
- Do not use solvents such as petrol, thinners etc. Use commercially available CD cleaners.



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AUDIO SYSTEM cont.

GLOSSARY OF TERMS

Automatic station search

Station search by tuner. The tuner will search until a station is found.

Autostore (AS)

The best receivable stations in the FM and AM wave bands can automatically be stored. The stations are stored in a separate AS memory**.**

If you leave the reception area of the stored stations, new stations can be stored.

Balance

Shifting of volume to left or right loud speaker.

Bass

Low frequency sound.

CD Text

Information stored on a audio CD title which include the following data:

- Track name.
- Artist's name.
- CD title.

Fader

Front/rear volume distribution.

MP3

CD audio data compression method developed by Fraunhofer Institute. Compression allows reduction of the amount of data to around 10 % of the original volume without audible losses in sound quality (at a bit rate of 128 kbit/s). If lower bit rates are used to convert the CD audio data into MP3 then the files become even smaller but sound quality is reduced.

WMA

Windows Media Audio, a data compression method used to store audio data.

Random play

The tracks on a CD are played back in random order. CDs or whole magazines can be played back randomly.

Treble

High frequency sound.

NOTES

CHAPTER 2

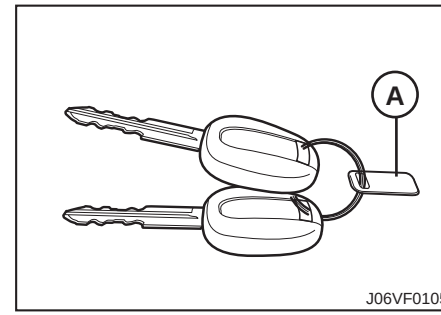
Locks

Page
Keys and keyless entry.....2-2
Manual operation.....2-5

*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

KEYS AND KEYLESS ENTRY

Keys



The code number for your keys is stamped on the key plate (A), which is attached to the key ring. Record the key number, remove the key plate and keep the number and the key plate in a safe place – not in the vehicle.

To protect your vehicle from theft, an electronic immobilization system has been installed in your vehicle. Only keys with the correct electronic code can be used to start the vehicle. Even if a key has the same profile it will not start the engine if the electronic code is incorrect.

In the event of the original keys being lost, any additional or replacement keys must be purchased from and programmed by a Holden Dealer, using your key code number.

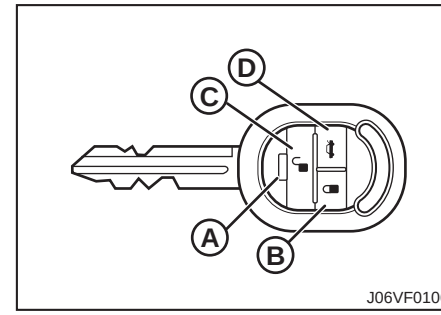
Keyless entry using remote control

The range of the remote control unit should be about 6 metres, this may be reduced due to shadowing and reflection of the radio waves. To operate the remote control unit, direct it at the vehicle and press the required button.

For your convenience, we recommend to operate the central locking system always using the remote control unit.

Treat the remote control unit with care; it should be protected against moisture and should not be operated unnecessarily.

Sedan



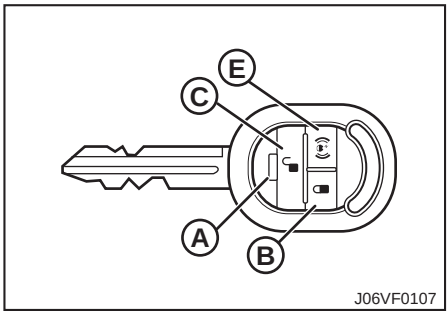
To unlock the vehicle: Press the 🔓 (C) button on the remote control unit. The indicator light (A) illuminates briefly, the vehicle hazard lamps flash twice and the doors unlock.

To lock the vehicle: Press the 🔒 (B) button on the remote control unit. The indicator light (A) illuminates briefly, the vehicle hazard lamps flash once and the doors lock.

To unlock the boot: Press the 🚗 (D) button on the remote control unit. The indicator light (A) illuminates briefly.

KEYS AND KEYLESS ENTRY cont.

Hatchback and wagon



To unlock the vehicle: Press the 🔓 (C) button on the remote control unit. The indicator light (A) illuminates briefly, the vehicle hazard lamps flash twice and the doors and liftgate unlock.

To lock the vehicle: Press the 🔒 (B) button on the remote control unit. The indicator light (A) illuminates briefly, the vehicle hazard lamps flash once and the doors and liftgate lock.

The hatchback and wagon remote control units contain a panic alarm which when pressed causes the vehicle hazard lamps to flash.

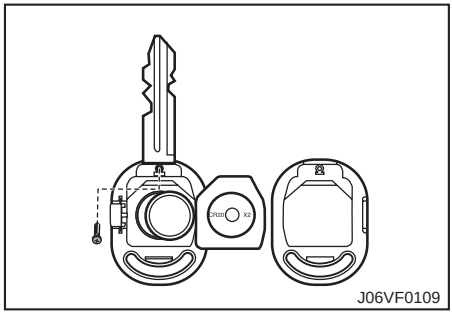
To trigger the panic alarm: Press the (E) button on the remote control unit for two seconds. The indicator light (A) illuminates briefly, the vehicle hazard lamps will begin to flash. They remain flashing until button (E) is pressed again for two seconds.

Note If the remote control unit cannot unlock the central locking system, this may be due to the following reasons:

- The voltage of the remote control battery is too low. Change the battery in the remote control unit.
- You may be too far from your vehicle.
- Interference from high-power radio waves from other sources.

If the doors have been unlocked using the remote control unit and the doors have not been opened within 30 seconds; the doors will automatically relock.

Replacing the battery in the remote control unit



Replace the battery as soon as the range of the remote control consistently starts to reduce, as follows:

1. Remove the screw from the back cover.
2. Remove the back cover.
3. Pull the transmitter unit out of the cover and open the transmitter unit.
4. Remove the battery and replace it with the new one, making sure the positive (+) side of the battery is facing up. Refer to *Specifications* in chapter 8, for the correct type of battery.
5. Close the cover of the transmitter unit and put the unit in the outside cover of the transmitter.
6. Reassemble the transmitter.
7. Test the operation of the transmitter with your vehicle.

KEYS AND KEYLESS ENTRY cont.

Matching the remote control

Matching transmitters to your vehicle may be necessary if you lose or replace a transmitter. Even if only one transmitter is being replaced, you must rematch all of your transmitters at the same time. Up to four transmitters can be matched to your vehicle. See your Holden Dealer to purchase a new transmitter and to have transmitters matched to your vehicle.

WARNING

The remote control unit is built up of precision electronic parts. To help avoid transmitter trouble:

- Do not leave the remote control unit in direct sunlight or on the dashboard.
- Do not treat the remote control unit carelessly.
- Do not allow the remote control unit to get wet.

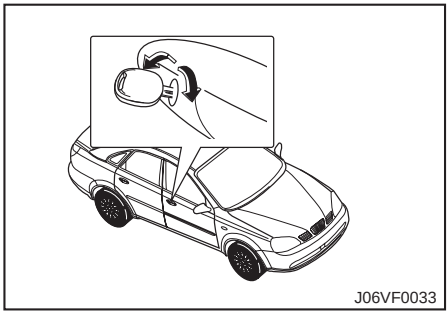
Note If the system is overloaded as a result of repeated operation at short intervals, the power supply may cut off for a short amount of time.

MANUAL OPERATION

Manual locking system

To lock using the key: Insert the key in the driver's door lock. Turn the key toward the rear of the vehicle. Allow the key to return to its vertical position for removal.

To unlock using key: Insert the key in the driver's door lock. Turn the key toward the front of the vehicle. Allow the key to return to its vertical position for removal.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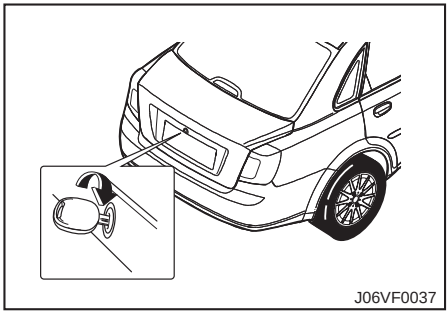
To unlock boot using key: Insert the key in the boot lock. Turn the key clockwise to unlock. Allow the key to return to its vertical position for removal.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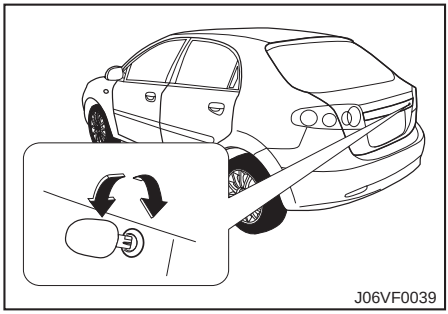
Rear hatch lock (wagon and hatch)

To lock: To close the liftgate, push it down until it latches securely. From the outside, the liftgate can be locked with either the remote control unit or with the key.

To unlock: From the outside, use your key to unlock the liftgate, or use your remote control unit to unlock.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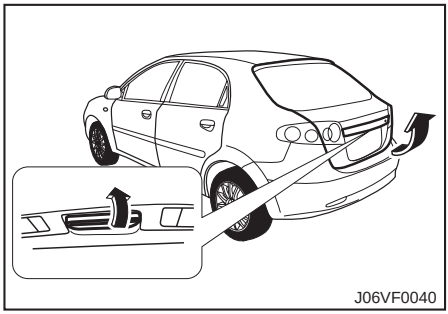
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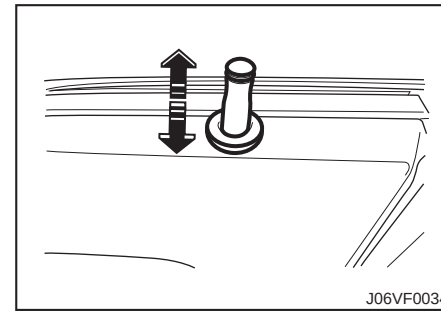
MANUAL OPERATION cont.

Door locks using snib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The door is unlocked when the snib is pulled up. The door is locked when the snib is pushed down.

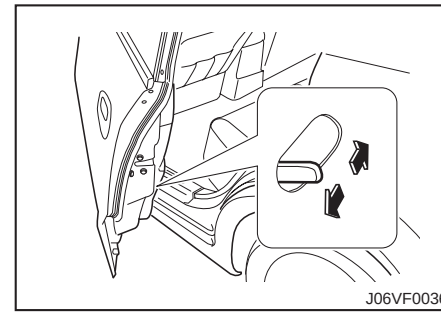
All passenger doors may be locked behind you by pressing the snib down when the door is open, then shutting the door.

The driver's door snib can not be pushed down when the door is open. This prevents locking the driver's door when you leave the keys inside your vehicle by mistake.

WARNING

Before driving, ensure the doors are closed and locked, especially when young children are in the vehicle.

Child proof lock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The rear doors on the vehicle can be locked to prevent children from opening them from the inside.

To engage the child lock, open the rear door and locate the child proof lock on the doors rear edge. Move the lever on each rear door to the locked position to lock the doors.

The door cannot be opened from inside, regardless of the lock knob position however, the door can be opened from the outside.

To disengage the child lock, open the rear door and push the lever in the opposite direction. Close the doors.

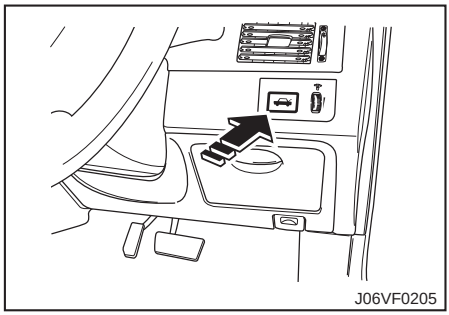
WARNING

For safety, you should check if the lock is operating correctly by attempting to open the door from the inside after the lock has been engaged.

MANUAL OPERATION cont.

Boot release button (sedan only)

The boot release button is located on the dashboard to the right of the steering wheel. Push the button to open the boot.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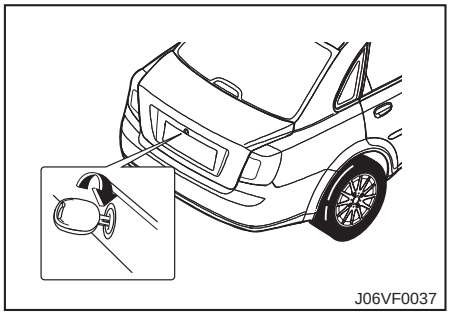
To lock: To close the boot lid, push it down until it latches securely. The luggage compartment lid automatically locks when closed.

To unlock: From the outside, use the key to unlock the boot lid, or use the remote keyless entry transmitter to unlock.


J06VF0037

WARNING

It can be very dangerous to drive with the liftgate open. Carbon monoxide (CO) gas can enter into the vehicle. You cannot see or smell CO. It can cause unconsciousness and even death.

If you must drive with it open, make sure all other windows are closed and switch the fan on to the highest speed using any setting that brings in outside air. Doing this will force outside air into the vehicle.

Glovebox

Refer to *Ashtray and glovebox* in chapter 1A.

NOTES

CHAPTER 3

Know your vehicle

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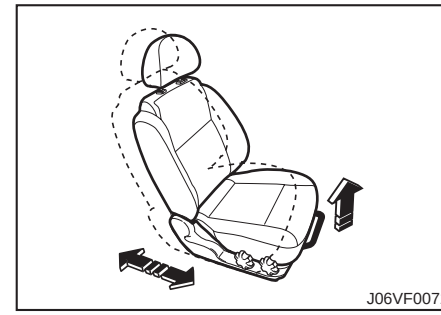
*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

SEAT ADJUSTMENT

Driver's seat

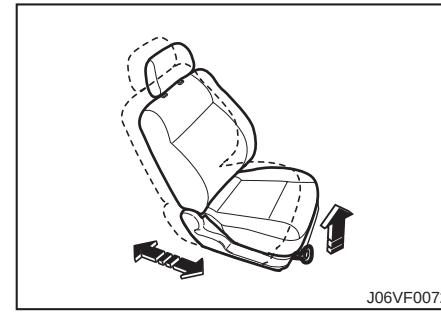
Lift the lever to unlatch the front seat. Slide the seat as required. Release the lever. Try to move the seat back and forth to check if the catch is fully engaged.

WARNING
Do not adjust the driver's seat when the vehicle is moving, as the seat could move suddenly, causing the driver to lose control.


J06VF0071

Passenger's seat

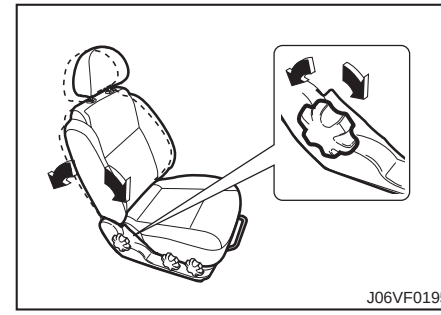
Lift the lever to unlatch the front seat. Slide the seat as required. Release the lever. Try to move the seat back and forth to check if the catch is fully engaged.


J06VF0072

Seat back reclining

To tilt the seat back: Rotate the knob to adjust the seat back to the desired position.

WARNING
To avoid reducing the effectiveness of seatbelts, seat back rests should only be semi-reclined when the vehicle is moving.

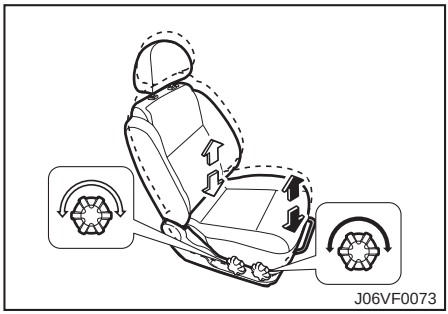

J06VF0195

SEAT ADJUSTMENT cont.

Driver's seat height adjustment

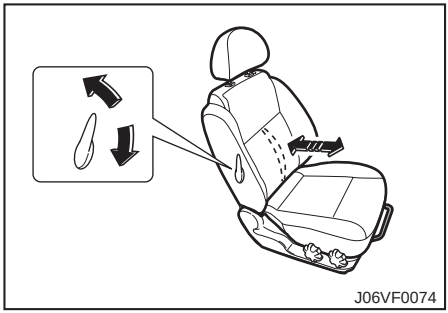
Turn the knobs on the outboard side of the seat to raise or lower the seat cushion.

Turn the front knob to adjust the height of the front of the seat cushion and the rear knob to adjust the height of the rear of the seat cushion.


J06VF0073

Driver's seat lumbar control

The lumbar support control is located on the side of the seat. Push the lever down to increase lumbar support or lift it to decrease support.

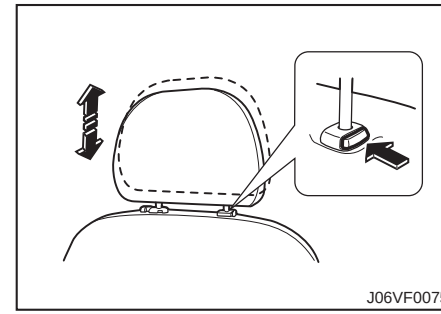

J06VF0074

HEAD RESTRAINT ADJUSTMENT

Adjusting the head restraints

To adjust the height of the head restraint, pull up or push down while pressing the lock button in.

The upper edge of the head restraint should be approximately at eye level, and not at neck level.



WARNING

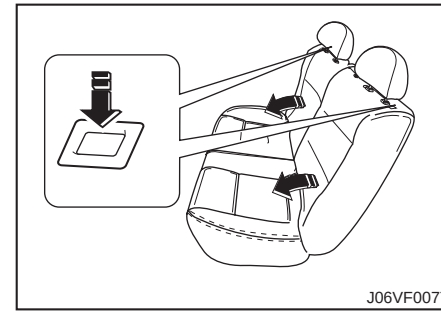
- Do not drive the vehicle with the head restraints removed, since it would increase the risk of a neck injury in the event of an accident.
- Do not attempt to adjust the driver's head restraint while the vehicle is in motion. This could cause a loss of control of the vehicle.
- The head restraint safety feature is not intended as a headrest. It is solely for the reduction of whiplash neck movement in an accident involving your vehicle.

Folding the rear seat back

The seat backs can be folded down for additional cargo space. The seat backs can be folded down individually. Press the release button located at the top of the seat back and fold the seat back forward.

To return the seat to the passenger position, lift the seat back and push it rearward until it latches. Make sure the seat is locked in place.

Check to be sure the safety belts are properly routed and are not twisted.

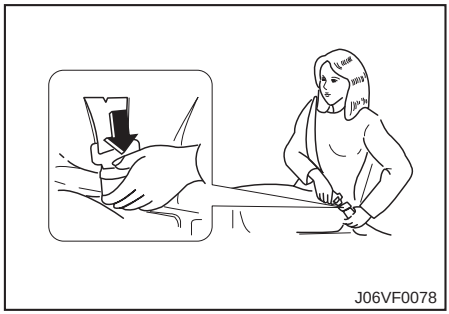


WARNING

- Do not press the release on the top of the seat back while the vehicle is moving. This could cause damage or injuries to the occupants.
- Do not allow passengers to sit on the folded seat backs while the vehicle is in motion. Unrestrained luggage or passengers on a folded seat back could be thrown within or ejected from the vehicle in a sudden stop or accident.

SEATBELTS

Seatbelts


J06VF0078

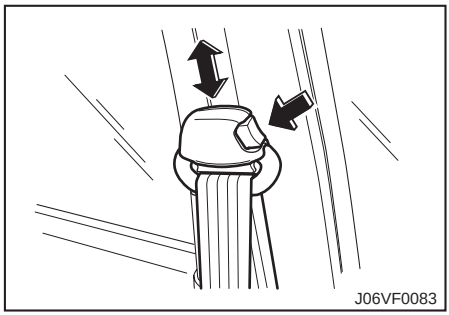
To put on the retractor seatbelt, pull the metal tongue across your body and clip it into the buckle. When the metal tongue has locked safely into place you will hear a click. After fastening, settle the seatbelt by running your hand under the seatbelt starting at the hip, move your hand across to the buckle then up under the sash. Any extra seatbelt length will retract automatically.

The lap section should be worn as low as possible across your hips, not on your waist. Ensure the sash and lap sections of the seatbelt are free from twists and fit firmly.

The emergency-locking retractor allows you to move freely while the vehicle is travelling normally. The retractor locks the seatbelt immediately on fast braking, impact with a solid object or any quick movement by the wearer.

To release the seatbelt, press the release button on the buckle and allow the seatbelt to retract. Check that it fully retracts without twisting or turning.

Seatbelt height adjustment


J06VF0083

WARNING
Do not attempt to adjust the seatbelt height while driving, because it could cause loss of control of the vehicle.

- Pull on the belt and press the release button to move the adjuster up or down to the proper height.
- Lock the safety belt anchor in position.
- To make sure it is locked in place, try to move the height adjuster without pressing the release button.

Adjust the height so the seatbelt passes over the wearer's shoulder and rests against the shoulder. It must not pass over the neck or upper arm. Short people should select a low seatbelt guide position and tall people a higher one.

SEATBELTS cont.

Rear seatbelts

To put on the seatbelt, pull the shoulder portion of the seatbelt down until the metal tongue reaches the buckle. Press the metal tongue into the buckle until it clicks into position.

To release the seatbelt, press the release button on the buckle. If however, the metal tongue and buckle are firmly wedged together, insert the metal tongue from one of the other seatbelts into the release button slot on the buckle, and pull the metal tongue free. In the event of this occurring contact your Holden Dealer.

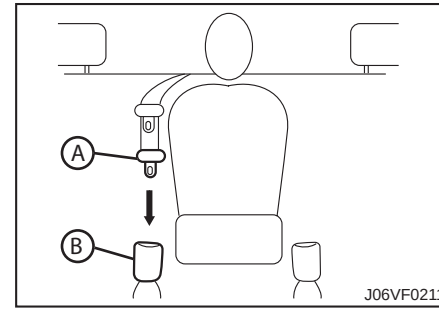
WARNING
The tongue must engage and lock inside the buckle for the seatbelt to function properly.

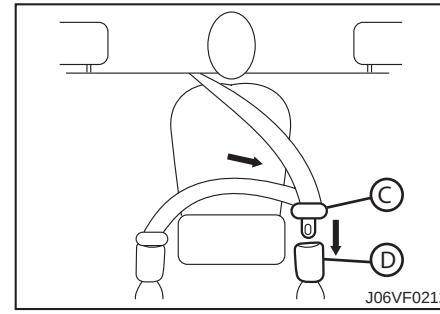
Rear centre lap/shoulder seatbelt

Your vehicle is equipped with a lap/shoulder seatbelt in the centre rear seat. This includes a retractable seatbelt, a buckle with a black release button, and a buckle with a red release button.

Note The latch plate at the end of the centre seatbelt strap only fits in the buckle with the black release button.

1. First, pull the belt straight down beside you and push the latch plate at the end of the seatbelt strap (A) into the buckle with the black release button (B).
2. Pull the belt across your body and push the second latch plate (C) into the buckle with the red release button (D).
3. Make sure the belt strap is not twisted and is sitting smoothly across your body.





SEATBELTS cont.

Seatbelt pretensioners

The front seatbelt system incorporates seatbelt pretensioners. Seatbelt pretensioners are part of the Supplemental Restraint System (SRS) and operate in conjunction with airbags. In the event of a severe frontal collision the belt buckles are pulled downward, tightening both the diagonal and lap sections of the seatbelt.

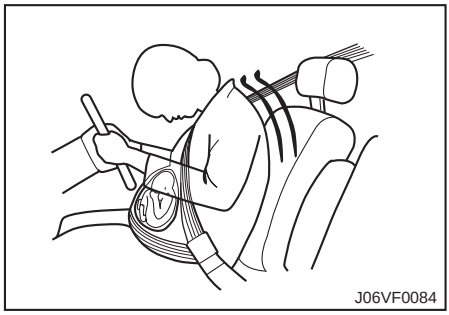
If the belt pretensioners have been activated, the SRS warning lamp on the instrument panel will not go out after the usual few seconds. This is designed to remind you the pretensioner system has been used and therefore needs to be replaced by your Holden Dealer. The seatbelts would remain operational, apart from this safety feature.

If the SRS lamp comes on at any other time, or if the SRS warning lamp illuminates on the instrument panel, see your Holden Dealer immediately to have the system checked. Refer to *Warning lamps* in chapter 1A.

The driver and all passengers should be properly restrained at all times with the seatbelts provided in the vehicle. Failure to do so could increase the chance of injury and/or the severity of injury in accidents.

Seatbelt use during pregnancy

Seatbelts work for everyone, including pregnant women. Like all occupants, they are more likely to be seriously injured if they do not wear safety belts. A pregnant woman should wear a lap/shoulder belt, and the lap portion should be worn as low as possible throughout the pregnancy.


J06VF0084

SEATBELTS cont.

Maintenance of seatbelts

Check the seatbelts regularly. Replace the seatbelts if they become frayed or damaged. The buckle and retractors mechanism operation should also be checked. Your Holden Dealer will regularly do these things as part of the scheduled maintenance plan, refer to the Service/warranty booklet.

The seatbelts must be replaced if they have been in use during a severe impact, even if there is no obvious damage.

Clean the seatbelts only with a solution of mild soap and lukewarm water. Never use bleach.

Child restraints

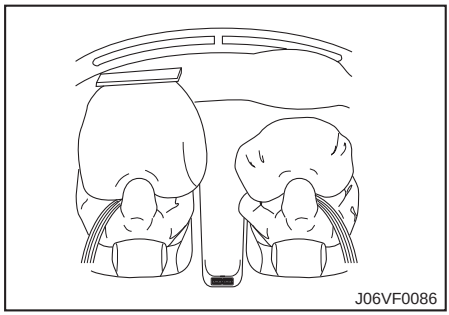
If you are travelling with children in the vehicle, child restraints are required. Refer to *Which type of child restraint for your child?* further on in this chapter.

WARNING

- Seatbelts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.
- Seatbelts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.
- Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.
- It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.
- Belts should not be worn with straps twisted.
- Each belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.
- No modifications or additions should be made by the user which will either prevent the seatbelt adjusting devices from operating to remove slack, or prevent the seatbelt assembly from being adjusted to remove slack.

AIRBAGS

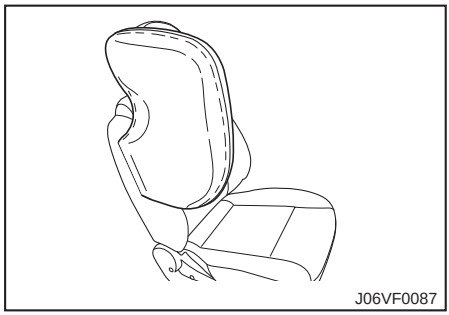
Operation


J06VF0086

The vehicle is fitted with front airbags and side impact airbags for both the driver and front passenger.

The driver's airbag is stored inside the steering wheel. AIRBAG is stamped on the steering wheel.

The front passenger's airbag is stored in the dashboard. The fitment of a passenger's airbag is recognised by the wording SRS AIRBAG above the glovebox and a label attached under the passenger's side sun visor.


J06VF0087

The side impact airbags (SIAB) for the driver and front passenger are stored in the side of the seat backs closest to the door. The fitment of side impact airbags is recognised by the word AIRBAG on the side of the seat nearest the doors.

The two front airbags operate as a pair and are triggered simultaneously in the even of certain severe frontal impacts. However, the side impact airbags are triggered independently.

In certain severe front end collisions, both front airbags inflate, assisting seatbelts to restrain forward body movement. A side impact airbag will only trigger on the side of the vehicle that is struck.

When airbags inflate an operating noise may be heard and a small amount of smoke-like gas is released. The gas is harmless and does not indicate malfunction or fire. The airbag then deflates, with the whole process taking only a moment.

WARNING
Airbags are part of the Supplemental Restraint System (SRS) as they assist, but do not replace seatbelts. Airbags are not designed to inflate if the vehicle is hit from the rear or is overturned. Seatbelts must be worn by all passengers whenever the vehicle is moving.

An impact caused by dropping into a large pothole or depression in the road may or may not inflate the airbags. Seatbelts (by law) should be worn by all passengers whenever the vehicle is moving.

Airbags inflate with great force. If you are too close to an inflating airbag it could seriously injure you. Seatbelts help keep you in position for airbag inflation in a crash.

The airbag lamp on the instrument panel illuminates for a few seconds when the ignition is switched on. This indicates the airbags are operational. If the light does not blink when the ignition is switched on, or if it illuminates when driving, this may indicate there is a fault in the airbag system. Consult your Holden Dealer as soon as possible.

AIRBAGS cont.

If the airbag system is handled incorrectly it can be set off for up to 15 seconds after the ignition has been switched off and the battery disconnected, and cause injury. Follow proper service procedures and make sure the person performing the work for you is qualified to do so.

After an accident in which the front airbag system is triggered, the airbag system (steering wheel steering column, both front airbag assemblies, both front seatbelt assemblies, passenger's airbag cover and dashboard and the SRS control module) must be replaced. After side impact airbag deployment, the relevant seat, seatbelt, sensor and control module require replacement. It is recommended to have this work done by a Holden Dealer.

WARNING

Front passenger's airbag: The dashboard area must be kept clear. Do not place any objects over the dashboard or between an airbag and yourself. Nothing should hang from the sun visor or mirror and a passenger must not rest their feet on the dashboard. Always wear your seatbelt.

Driver's airbag: The horn pad must not be covered with adhesive or any other material. The driver should adjust the seat as far back as possible and sit back as far as possible while still maintaining control of the vehicle. Always wear your seatbelt.

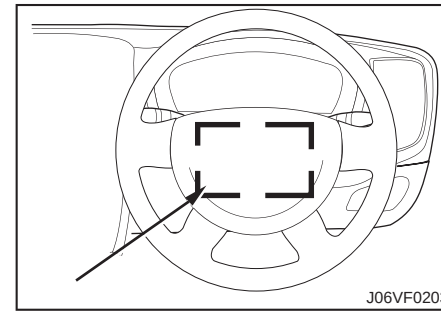
Side impact airbags (SIAB): Do not fit unauthorised seat covers as they may impair the deployment of the side impact airbags. Do not position your body or any object (including pillows) between front seats and doors. Front seat occupants should not lean on or sleep against the door. Always sit centrally in the seat. Always wear your seatbelt.

The system should also be inspected by a Holden Dealer if:

- The steering wheel or dashboard area is scratched, cracked or damaged.
- Side impact airbags are fitted, and the front seats are damaged.

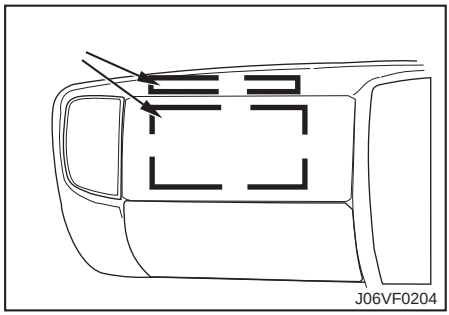
WARNING

The horn pad must not be covered with adhesive or any other material, as this may hinder airbag operation.



AIRBAGS cont.

WARNING
The dashboard area must also be kept clear with nothing around this area, hanging from the sun visor or stuck to the dashboard.



Extensive design and testing has gone into the airbag system. It should however, be treated with respect. Any careless or unskilled interference with the system could lead to its failure or to accidental inflation. It is recommended that any work to the electrical system, steering column, dashboard area, steering wheel or airbag system be carried out by a Holden Dealer.

Bull bar

Fitting a bull bar, or making other modifications to the front of the vehicle, may change the impact speed which would normally cause the airbag to inflate, reducing its effectiveness. Bull bars should not be fitted to vehicles operating in suburban areas, as they increase the risk of injury to a pedestrian in the event of a collision. Bull bars are only recommended for country or outback areas, where additional protection from straying animals is required. Please remember that defensive driving and limiting driving speed to the road conditions is always the best approach, particularly where road side signs indicate wildlife is abundant.

AIRBAGS cont.

Passenger airbag and child restraints

WARNING – EXTREME HAZARD

- Do NOT use a rearward facing child restraint on a seat protected by an airbag in front of it.
- The child could be seriously injured if the airbag inflates, as the child's head would be very close to the inflating airbag.
- Remember that it is safer for children to be seated in the rear seats.

WARNING AVERTISSEMENT ADVERTENCIA
AIR BAG
DO NOT place rear-facing child seat on this seat with airbag
DEATH OR SERIOUS INJURY can occur.
Ne pas placer de siège enfant "dos à la route"sur le siège passager avant équipé d'un airbag.
Risque sérieux de MORT OU DE BLESSURES GRAVES.
NO DEBE colocar de espaldas asientos para bebes en esta silla equipada con bolsa de aire
MUERTE O TRAUMA SERIO pueden ocurrir.
J06VF0213

Children should be restrained at all times when travelling in a vehicle.

Refer to *Child restraints* further on in this chapter, for further information about fitting a child restraint.

Do not touch any airbag system components or wires.

The wires can be identified by yellow tape wrapping or yellow tubing and the connectors are also yellow.

Scrapping a vehicle that has an un-inflated airbag can be hazardous. Ask your Holden Dealer for assistance.

WARNING

- Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seatbelts, harnesses or for attaching other items or equipment to the vehicle.
- Only child restraints that have clips to attach to the vehicle's anchorage fitting are to be used. Earlier types of child restraints may not attach securely to this type of anchor.
- Only Standards Australia approved child restraints and harnesses should be used. You should only purchase a child restraint which carries the appropriate Standards Australia sticker of approval.

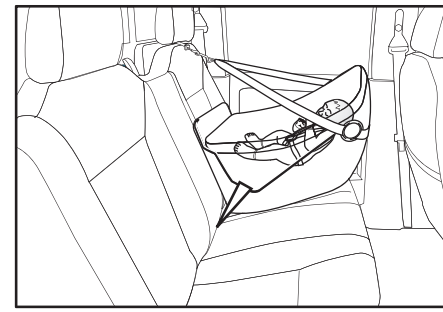
WHICH TYPE OF CHILD RESTRAINT FOR YOUR CHILD?

Children should be restrained at all times and fitted with a child restraint appropriate to their size when travelling in a vehicle. The following outlines guidelines about selecting the appropriate restraint.

Infants

Rearward facing infant capsule	
Weight	Height
Less than 9 kg*	Less than 70 cm*

Designed so that in the event of a collision, impact forces will be evenly spread over the baby's back, with minimal jarring to the vulnerable head and neck area.

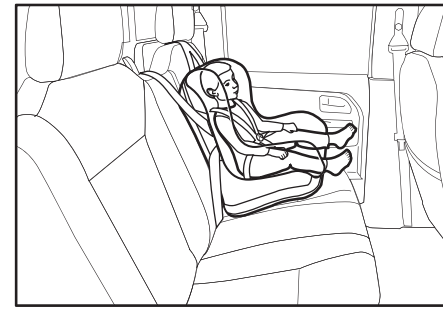


Rearward facing infant capsule

Young children

Forward facing child seat
Weight
8 to 18 kg*

For use when the child is able to sit and easily hold his or her head upright. It is also possible to purchase convertible seats which can be used as a rearward facing infant restraint or converted to a forward facing child seat.



Forward facing child seat

Booster seat with lap/sash seatbelt
Weight
14 to 26 kg*

When children outgrow a typical forward-facing child seat but they are still too small for lap/sash seatbelts. A booster seat raises the child so the knees bend comfortably, the lap/sash seatbelt is correctly positioned and the child can see out the window. A rigid booster seat with a back, side wings and sash guide gives the best protection. In assessing the range of children who would benefit from booster seats, height is a better indicator than age or weight.

Booster seat with lap/sash seatbelt

Older children

A child should use a normal lap/sash seatbelt only when:

- he/she can sit against the back of the rear seat with knees bent comfortably at the edge of the seat,
- lap belt rests low and snug across the hips – not across the stomach,
- sash belt is centred on shoulder and chest,
- he/she is able to stay seated like this for the entire trip.

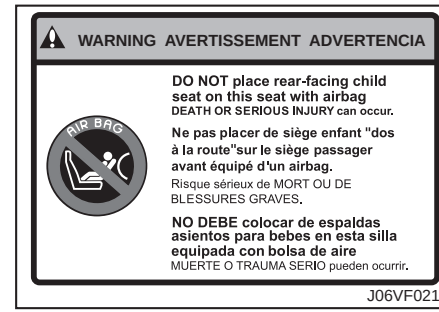
Adult lap/sash seatbelt

*AS/NZS 1754:2004

CHILD RESTRAINTS

WARNING – EXTREME HAZARD:

- Do not use a rearward facing child restraint on a seat protected by an airbag in front of it.
- The child could be seriously injured if the airbag inflates, as the child's head would be very close to the inflating airbag.
- Remember that it is safer for children to be seated in the rear seats.


WARNING AVERTISSEMENT ADVERTENCIA
AIR BAG
DO NOT place rear-facing child seat on this seat with airbag
DEATH OR SERIOUS INJURY can occur.
Ne pas placer de siège enfant "dos à la route"sur le siège passager avant équipé d'un airbag.
Risque sérieux de MORT OU DE BLESSURES GRAVES.
NO DEBE colocar de espaldas asientos para bebes en esta silla equipada con bolsa de aire
MUERTE O TRAUMA SERIO pueden ocurrir.
J06VF0213

Children should be restrained at all times when travelling in a vehicle.

WARNING

- Always ensure the seatbelt fits firmly around the child restraint.
- If a child can not see out of the window, do not raise the child by means of an ordinary cushion. The cushion will not stay in place in the event of a crash, and the child would slip out of the straps and become entangled.
- Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seatbelts, harnesses or for attaching other items or equipment to the vehicle.
- Only child restraints that have clips to attach to the vehicle's anchorage fitting (as shown in the following illustrations) are to be used. Earlier types of child restraints may not attach securely to this type of anchorage.
- Use only Standards Australia approved child restraints and harnesses. Only purchase a child restraint which carries the appropriate Standards Australia sticker of approval.
- Where legally allowable, you may install a forward-facing child restraint in the front passenger's seat (without side impact airbags), but always move this seat as far back as it will go.

CHILD RESTRAINTS cont.

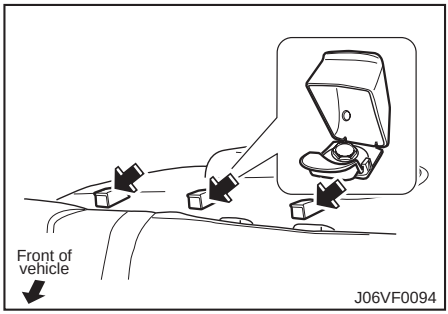
ANCHORAGE FITTINGS

The following illustrations show the anchorage points for each model.

Sedan models

The top strap anchor brackets are already installed in the anchor points on the shelf behind the rear seat.

The anchor brackets are installed in three positions.

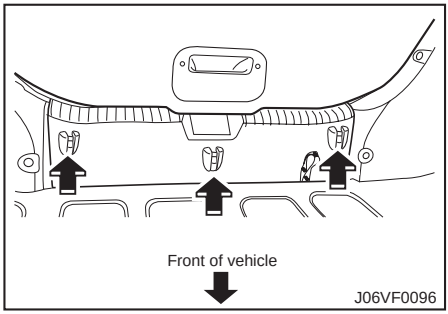


Hatchback models

Top strap anchor brackets are installed along the lower back wall of the rear compartment.

The anchor brackets are installed in three positions.

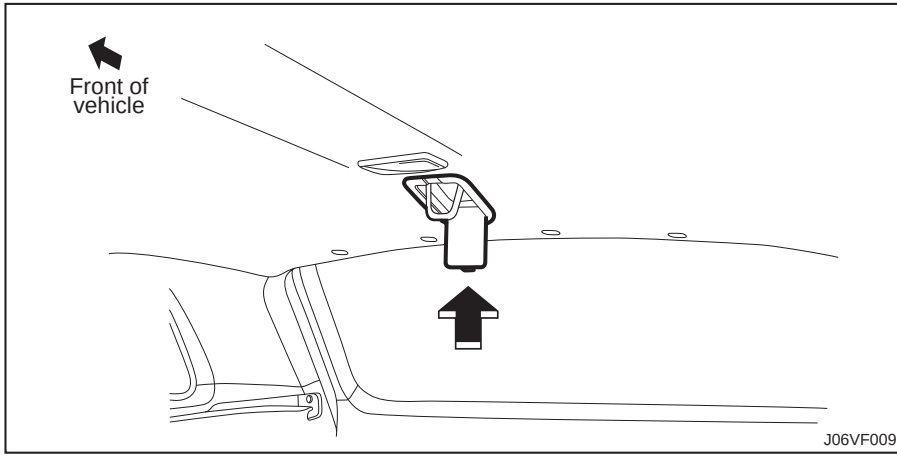
Note The rear parcel shelf must be removed in order to fasten the child restraint straps to the anchorage points.



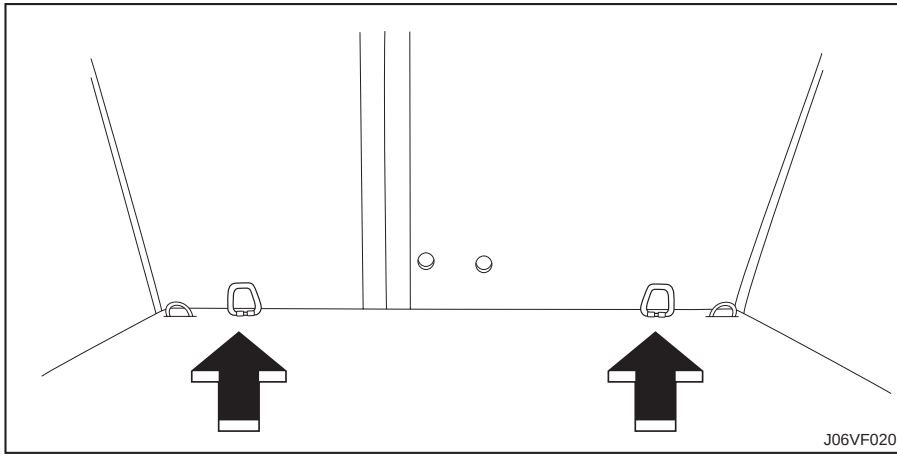
CHILD RESTRAINTS cont.

Wagon models

For the centre rear seating position, a top strap anchor bracket has already been installed in the ceiling of the rear area.



For the outboard seating position, top strap anchor brackets have already been installed on the floor of the rear cargo area.



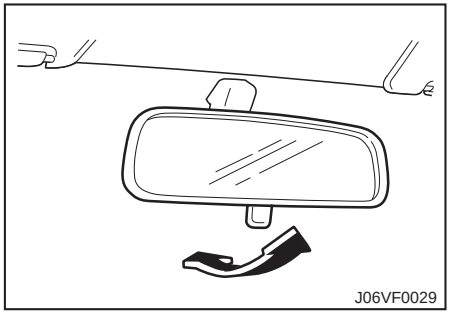
MIRRORS

Inside rear view mirror

To adjust the rear view mirror, move the mirror right or left, up or down to gain the required angle.

The anti-glare lever on the lower edge of the mirror enables the reflector to be used during night driving. This reduces the glare, at night from the following vehicles headlights.

During normal daylight operation, the lever should be set forward. To reduce glare at night, move the lever towards you.

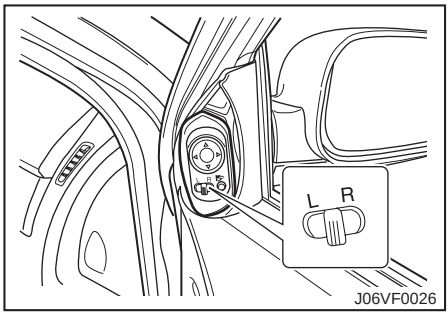


Exterior electric rear view mirrors

The adjustment switches for the electric mirrors are located on the driver's door and are operational when the ignition switch is turned to the ON position or ACC (accessories). Moving the glass of the mirrors forcibly by hand will damage the electric mirror drive system.

Push the selector switch to the left to move the left mirror, or to the right to move the right mirror. Pushing the selector switch to the middle will disengage movement.

Push the arrow pointing in the direction you want to move the mirror up, down, left or right. It is not advisable to adjust the mirrors while driving.



WARNING
The passenger's mirror is convex shaped, to provide a wider view. Objects seen in this mirror will appear further away than they actually are.

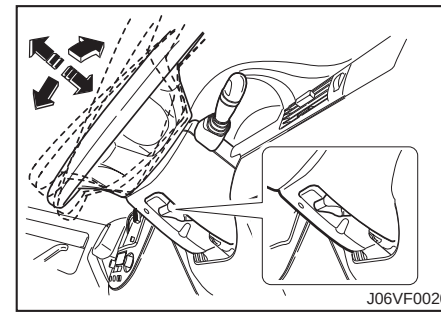
Heated mirrors

The exterior rear view mirrors are heated when ever the rear demister is activated.

TILT STEERING AND WINDOWS

Tilt steering

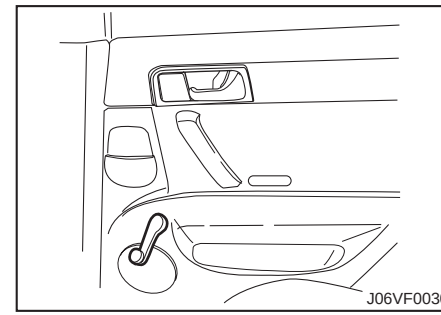
The tilt steering lever is located on the underside of the steering column. To adjust the height or the reach of the steering wheel, push the lever away from you, this will unlock the steering column. Move the steering wheel to the desired height and reach, then pull the lever toward you. Try moving the steering wheel up and down to ensure it is securely locked into position.


J06VF0020

WARNING
As with all the other driver position controls, do not attempt to adjust the steering wheel while driving.

Rear door window regulator handle*

Turn the regulator handle to raise or lower the door windows.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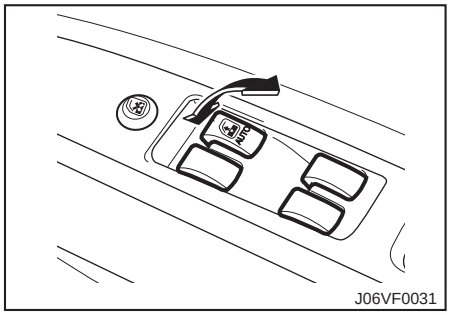
TILT STEERING AND WINDOWS cont.

Power windows


J06VF0031

The main switches for the power windows are located in the driver's door. The front switches are for the front windows and the rear switches are for the rear windows*.

Individual switches are located on the front passenger door and in the rear doors*.

The switches for the power windows are operational when the ignition switch is in the ON position.

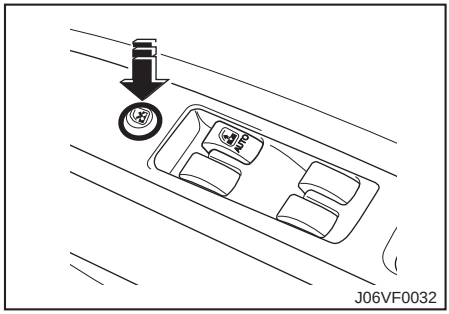
To open the driver's window, 'tap' the switch; the window will fully open.

To open a passenger's window however, push down on the switch and hold it down until the window reaches the desired position then release.

To close a window, pull back on the switch until the window reaches the desired position.

The lock switch for the power windows is located on the driver's door armrest.

When the lock switch is in the ON position the passengers are not able to operate their windows from the window switch fitted to their door. Pressing it unlocks the passenger's power windows and allows operation from the individual window switches.


J06VF0032

WARNING

- To assure the safety of children and others, ensure that all passengers have their hands, etc. clear of the windows.
- Remove the key when leaving the vehicle, to avoid unintentional window operation by children.
- Ensure the door lock switch has been set to the activated position when children are in the vehicle.

INTERIOR LAMPS AND ANTENNA

Interior lamp

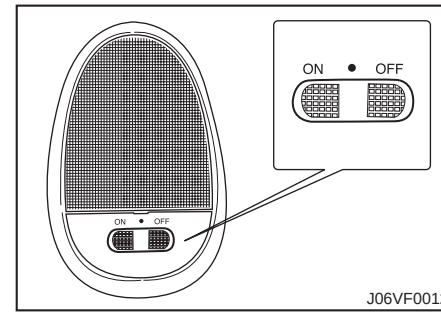
The dome lamp is located in the centre of the roof and is operative regardless of the ignition switch position.

DOOR The lamp switches on when a door is opened and switches off when all the doors are closed.

ON The lamp switches on regardless of the door position.

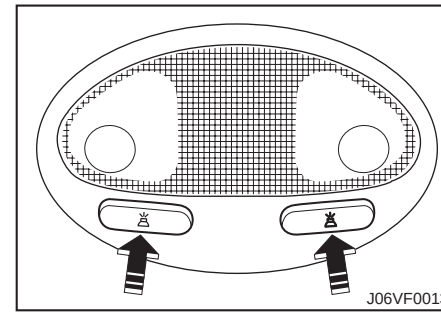
OFF The lamp remains off.

The dome lamp switches off about 7 seconds after all the doors are closed.



Map lamps

The map lamps are located between the two sun visors. Push the switches to switch the map lamps on and off (as illustrated).



Antenna

The antenna is integrated into the windscreen on the hatchback and wagon models and the rear window on sedan model.

Damage to the inside surfaces of the windscreen or rear window can cause interference with radio reception.

WARNING

- Do not apply aftermarket glass tinting. The metallic film in some tinting materials will interfere with or distort the incoming radio reception. The repairs will not be covered by your warranty.
- Do not use a razor blade or anything sharp on the windscreen or rear window. Make sure not to scratch the inside of the windscreen or rear window and not to damage the lines. You can damage the antenna and interfere with the radio's ability to pick up stations clearly. The repairs will not be covered by your warranty.

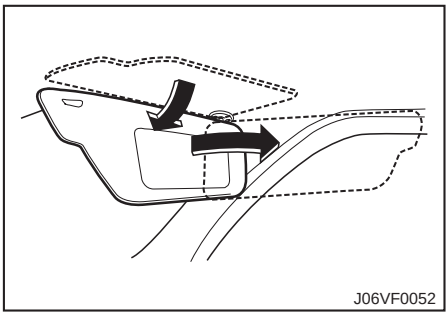
SUN VISORS, VANITY MIRROR AND ASSIST GRIP

Sun visors

The sun visors are used to block out the sun. They can be pivoted to the side when unhooked.

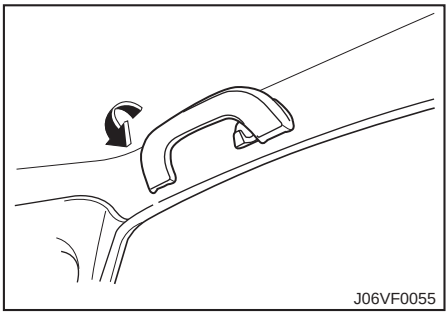
Vanity mirror

The vanity mirror is located on the rear side of the sun visor.



Assist grip

Assist grips are located above the passenger windows to help occupants when getting in and out of the vehicle.



PARK BRAKE

Park brake lever

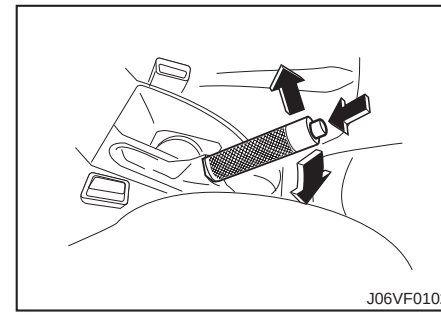
Never drive with the park brake applied, as this would overheat and damage the park brake.

The park brake lever is located between the front seats.

Make sure the vehicle is stationary before you apply the park brake.

To apply the park brake lever pull upward. To release the park brake, pull the park brake lever slightly upward, press the release button and lower the park brake lever all the way down.

A warning lamp on the instrument panel displays when the park brake is applied.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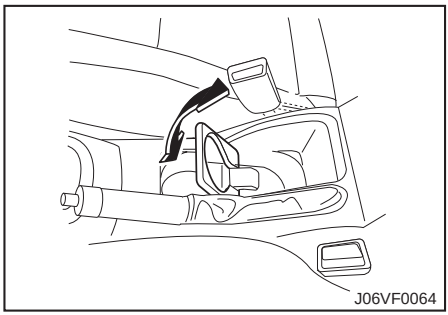
CUPHOLDERS AND STORAGE

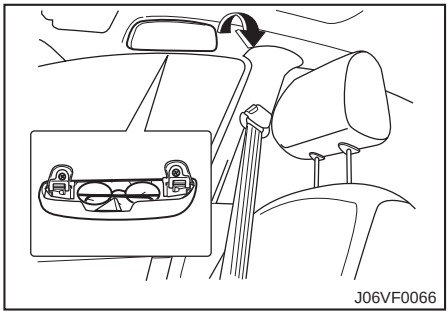
Cupholders

To use the front cupholder in the centre console, swing the inner support forward or backward.



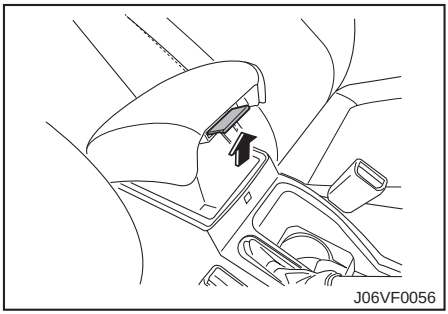
Sunglasses holder*

There is a storage area above the driver's door for sunglasses. Pull down and hold the upper part of the cover to open it. Release the cover to close the holder automatically.



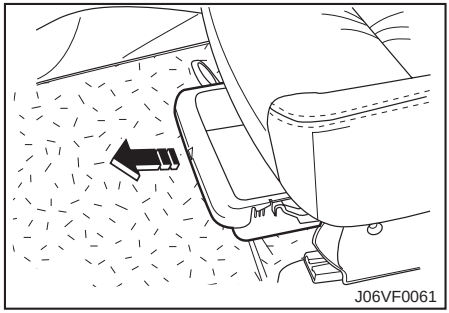
Centre console

The centre console is located between the two front seats.



Under seat storage*

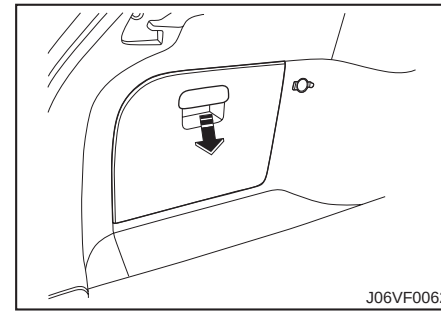
Your vehicle may be equipped with a storage compartment located under the front passenger's seat. To use the storage compartment, pull the end of the tray toward the dashboard.



CUPHOLDERS AND STORAGE cont.

Rear storage area (wagon only)

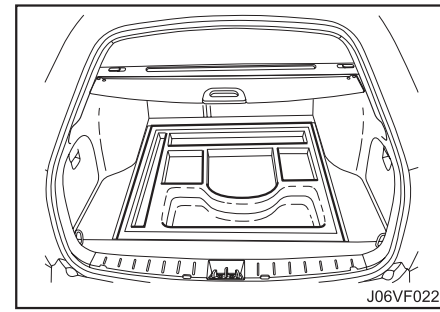
The wagon model is equipped with storage compartments located in the right and left side trim panel of the rear cargo area. To open the storage compartment, pull the handle.



Floor storage compartment (wagon only)

To access the floor storage bins, use the handle to lift up and remove the luggage floor.

WARNING
Do not allow items in a bin to extend above the top of the bin. Otherwise, the bin or luggage floor may be damaged.



Cargo blind (wagon only)

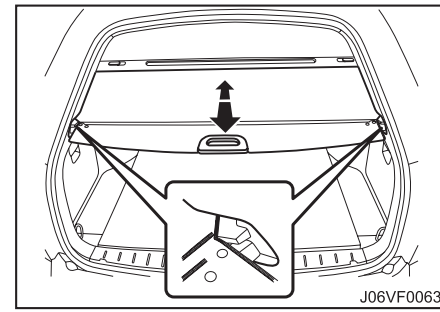
To cover:

Pull the handle toward the rear of the vehicle, latch the locking devise on either side as shown.

To uncover:

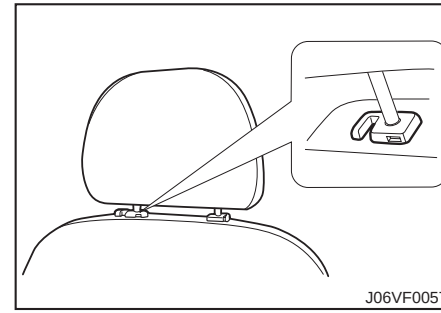
Unlatch the blind form the locking devise. The blind will roll up automatically.

Note Do not place any objects on top of the cargo blind.



Shopping hooks

Your vehicle is equipped with seat back shopping hooks on each front seat back. Plastic grocery bags or other suitable objects can be attached to the hooks.



CHAPTER 4

Driving

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Driving precautions.....4-4
Manual transmission*.....4-7
Automatic transmission*.....4-8
Anti-lock brake system (ABS)*.....4-12

*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

SAFETY

Before entering the vehicle

1. Check that windows, mirrors and lights are clean.
2. Check if the tyres are not flat.

Before driving away

1. Ensure that all doors are closed and secured.
2. Position your seat for comfortable driving.
3. Adjust rear vision mirrors.
4. Fasten seatbelts.
5. Check if the warning indicators light up when you turn the key to start the engine. Refer to *Warning lamps* in chapter 1A.

   Automatic transmission* only: Have the ignition on and press the brake pedal before moving the transmission selector away from the **P** (park) position.

Parking

1. Apply the park brake.
2. **Manual transmission*:** Place in reverse or first gear.

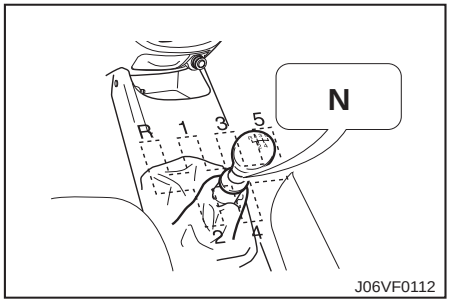
   Automatic transmission*: Place in **P** (park) position.
3. Shut all windows.
4. Switch off all exterior lights.
5. Turn the ignition key to the LOCK position and remove the key.
6. Lock all doors.

WARNING

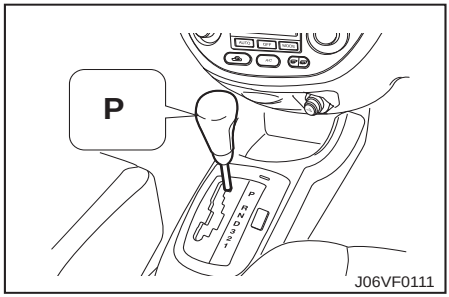
- To avoid the possibility of injury, always fully apply the park brake before exiting the vehicle.
- Be careful where you park or drive. As with any vehicle, do not park or operate this vehicle in areas where combustible materials such as dry grass or leaves can come in contact with the hot exhaust system.
- Never leave the engine running in an area such as a closed garage or underground car park.

ENGINE STARTING

1. Apply the park brake firmly and release it only after you have started the engine and are ready to drive away.
2. **Manual:** Press the clutch pedal in fully and move the gear selector lever to the **N** (neutral) position. The clutch pedal can now be released.



Automatic: Move the shift lever to the **P** (park) or **N** (neutral) position. The engine will not start if it is in any other position. As a safety precaution, you should have your foot on the brake pedal in order to shift the transmission lever out of the **P** (park) position.



3. Start the engine as outlined below:

   For cold or hot starting the procedure is the same. Do not touch the accelerator pedal. Simply turn the key to the start position, and release when the engine has started.

   If the engine does not start in 10 seconds, wait another 15 seconds to let the starter motor cool down. Turn the key to start again with the accelerator pedal pushed completely down to the floor for a maximum of 10 seconds. If the engine still does not start, release the key and pedal. Wait another 15 seconds and then repeat the entire procedure. If the engine still fails to start, contact your Holden Dealer.

Engine will not crank or start

Remove the key from the ignition switch, insert the key and try starting the engine again.

Note If the malfunction indicator lamp illuminates while attempting to start the vehicle, a fault in the vehicle's immobiliser module may be indicated. The vehicle will not start with an immobiliser fault, contact your Holder Dealer to have the fault rectified.

PETROL ENGINE WARNING
When trying to start the engine, do not hold the key in the start position for any extended time, for if unburnt fuel were to reach the catalytic converter and ignite, the catalytic converter could overheat or be destroyed by backfire.

Note You should not subject the engine to high load conditions (for example full throttle acceleration or high speeds) until it has completely warmed up. Otherwise, you may cause premature engine wear or engine damage.

DRIVING PRECAUTIONS

Running-in

These days, there is no need to follow the formal running-in schedule. However, by observing a few simple precautions during the first few hundred kilometres of driving you will greatly assist your vehicle's future performance and economy.

For the first 500 km, do not exceed 90 km/h. Up to 1,500 km, avoid driving at any one speed, either slow or fast, for any length of time.

Include some higher speeds during this period. Always drive at moderate speed until the engine has completely warmed up.

For the first 500 km heavy braking should be avoided, except in an emergency, since brake misuse during this period could impair future braking efficiency.

It is best to drive your new vehicle for 1,500 km before towing a load. If you must tow before this do not exceed 80 km/h on good roads. No heavy off road towing should be attempted before 1,500 km.

Off-road

Following a period of off-road driving, particularly in wet weather, the front of the vehicle should be hosed down to clear any accumulation of mud. In particular, pay specific attention to both sides of the radiator.

Engine misfire warning

If the engine is misfiring, reduce the vehicle speed and do not attempt to tow a caravan or trailer, until the misfiring is corrected by the nearest Holden Dealer. Continued driving while the engine is misfiring could result in the catalytic converter and exhaust system overheating, resulting in vehicle damage.

Loose articles

Do not leave loose articles or luggage in the passenger compartment.

WARNING
Gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around, and where possible, placed in the load area of the vehicle. It is recommended that if gas cylinders are frequently transported, a purpose built carrying compartment be used. Transportation of gas cylinders is regulated by legislation in some States.

DRIVING PRECAUTIONS cont.

Loading the vehicle

Loading the vehicle changes the mass distribution and therefore the handling of the vehicle when driving. After loading the vehicle, extra care should be taken to become familiar with the feel of the vehicle while driving. Refer to *Tow and load* in chapter 9. Refer to *Tyres*, in chapter 7, for information on tyre pressure when the vehicle is loaded.

Tyre grip

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tyre and road surface. This phenomenon, known as aquaplaning, may cause partial or complete loss of grip, which will affect the steering and braking of the vehicle. To reduce the possibility of aquaplaning:

- Reduce speeds during rainstorms.
- Replace tyres when tread wear indicators are visible.
- Regularly check if tyres are properly inflated.

Brakes

Power assisted brakes, which are fitted to your vehicle, utilise vacuum from the engine when it is running. Never let the vehicle run down steep inclines without the engine running. Never coast with the engine switched off.

A decrease in driving, cornering and braking traction occurs when water, snow, ice, gravel or other materials are on the road surface. Driving practices and vehicle speed should be adjusted to suit the road conditions.

Driving through water may affect performance. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with an assured clear distance ahead until brake performance returns to normal.

Brake pedal travel should not be obstructed by ill-fitting floor mats or any other material under the pedal which causes interference with normal pedal movement.

Your seat should be positioned so that you can push the brake pedal satisfactorily under all braking conditions.

Power steering

The steering system fitted to your vehicle is power assisted. It has been designed to reduce steering effort. Care should be taken not to hold a prolonged turning force on the steering wheel when the steering is at left or right lock when stationary (e.g. during parking manoeuvres) as this creates high operating temperatures and pressures within the system.

If the power assistance for the steering is not working, because a fault has developed, the vehicle can still be steered. However, due to the much greater effort required to steer, it is recommended that you have the problem fixed promptly.

DRIVING PRECAUTIONS cont.

Snow chains

When driving or fitting snow chains, ensure the following are observed:

- Snow chains may only be used at speeds up to 50 km/h.
- When driving on roads that are free of snow, snow chains should only be used for brief periods, as they will wear quickly and may snap.
- The part of the snow chain that covers the tyre tread should not be thicker than 13 mm. The part of the snow chain that wraps around the side of the tyre should not be thicker than 15 mm (including the chain clasp). The use of thicker chains may cause damage to the body of the vehicle.

Mobile phones and CB radios

Mobile phones and CB radio equipment, which use an integrated antenna, may temporarily affect the vehicle's electronics (permanent damage is unlikely) when used inside the vehicle, due to the interference created when transmitting.

Therefore, mobile phones and CB radio equipment that use an antenna fitted to the outside of the vehicle, should be used whenever possible.

If phones or CB radios with an integrated antenna must be used inside the vehicle, care should be taken not to operate near the dashboard area.

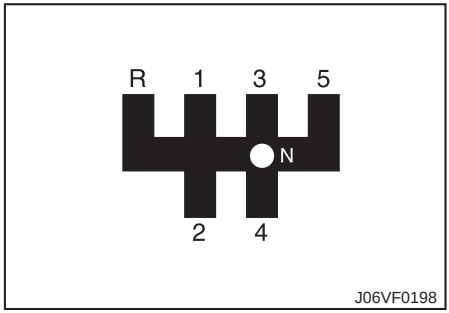
*MANUAL TRANSMISSION**

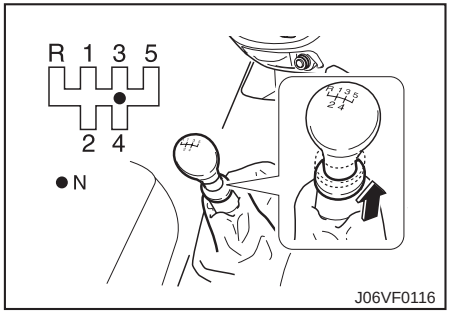
Shift pattern

The manual transmission system has five fully synchronised forward gears and one reverse gear. The shift pattern as illustrated, is found on the top of the gear shift lever.

Never attempt to engage reverse gear until the vehicle has completely stopped. A slight pause between pressing the clutch pedal and moving into reverse gear is desirable to allow all the rotating components to stop and avoid gear crashing.

In order to shift into **R** (reverse), you must first lift up the ring on the shift lever.





Operating notes

- When shifting from one gear to another, ensure you depress the clutch pedal in fully to avoid clashing, and possible chipping of the transmission gears.
- Shift the gear with a moderate effort to allow time for the transmission synchronisers to work properly.
- Whenever reverse is selected with the ignition on, the reversing lights operate.
- Do not drive with your foot resting on the clutch pedal as damage to the clutch may result.
- When stopped on an incline do not hold the vehicle by slipping the clutch. Use the brakes.
- When climbing steep grades, change down to a lower gear before the engine starts to labour. To maintain safe speeds on a steep downgrade and to reduce brake wear and overheating, shift into a lower gear before starting the decent.
- Do not over speed the engine when shifting down to the next lower gear.

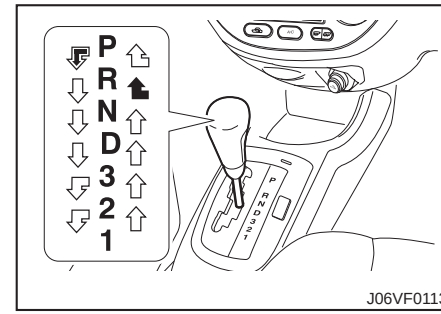
Clutch pedal

If under normal vehicle operation the clutch pedal develops abnormal behaviour, see your Holden Dealer.

AUTOMATIC TRANSMISSION*

This system has a four-speed automatic transmission. Its shift indicators are arranged with **P** (park) at one end, followed in sequence by **R** (reverse), **N** (neutral) and then the forward driving ranges.

To prevent the vehicle from 'creeping' you should always have your foot on the brake pedal when shifting out of **P** or **N**.



P (park) This stops the front wheels from rotating and should be selected (together with the park brake) when leaving the vehicle. Never select **P** until your vehicle is fully stopped. The **P** position is one of only two positions (the other is **N**) in which your engine may be started.

R (reverse) Never select **R** until your vehicle is fully stopped. The reversing lights operate when **R** is selected and the ignition is on. After reversing, make sure the vehicle has fully stopped before selecting a forward gear.

N (neutral) This is the out-of-gear position. You may restart a stalled engine while the vehicle is still moving or stopped.

D (drive) This is the normal forward driving position and allows the transmission to choose the appropriate gear (1st through to 4th) for the driving conditions and optimum fuel economy.

Fourth gear is overdrive which reduces engine speed and noise levels while increasing fuel economy.

3 (third) This position allows the transmission to shift between 1st, 2nd and 3rd gear as conditions require. 4th gear is excluded. Use this position when going down a long hill or on a road with many sharp curves. Shift back into the **D** position to return to normal driving.

2 (second) This position allows the transmission to shift between 1st and 2nd gear. Use this position when going down a moderate gradient where you want to slow down a little without using the brake or require more power when climbing hills. Shift back into the **D** position to return to normal driving.

1 (first) Use this position when a strong braking effect is needed on a steep gradient, below 60 km/h. Even though the transmission gear selector may be in **1**, the transmission does not select first gear until vehicle speed is less than 55 km/h. Even though the transmission gear selector may be in **1**, the transmission shifts up automatically to second gear above a specified engine speed. Move the lever back to **D** position so the transmission again shifts up into higher gears.

AUTOMATIC TRANSMISSION cont.*

Shifting between gear positions

Movement between certain gear positions requires pushing the release button on the front of the selector grip.

When the ignition is on, depress the brake pedal and push the release button on the front of the selector grip as indicated by the black/or white arrows as follows:

You must apply the brake pedal and push the selector lever to the passenger side in order to shift.

You must push the selector lever to the passenger side in order to shift.

You must press down and hold the selector lever and push it to the passenger side in order to shift.

It is not necessary to apply the brake pedal or push the selector lever to the passenger side in order to shift.

WARNING
You can select some transmission positions without pressing down on the shift lever. However, it is recommended that you become familiar with these positions to prevent any accident or damage to your transmission that may occur due to incorrect operation.

AUTOMATIC TRANSMISSION cont.*

HOLD mode

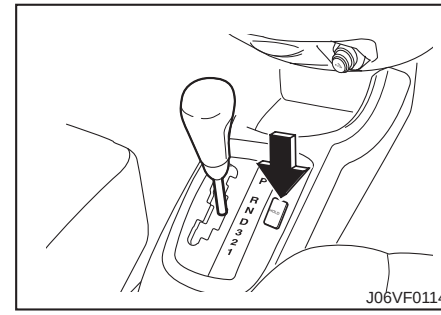
Select HOLD mode to use the automatic transmission similar to a manual transmission. Press the **HOLD** button to activate this feature. A light on the instrument panel comes on when HOLD mode is selected. Press the **HOLD** button again to return to normal automatic transmission operation.

When HOLD mode is activated with the transmission in **D** (automatic overdrive), the transmission can only shift from second through fourth gear.

When HOLD mode is activated with the transmission in **3** (third gear) the transmission can only shift from second through third gear.

When HOLD mode is activated with the transmission in **2** (second gear) or **1** (first gear), the transmission is fixed in that gear.

Select HOLD mode in **D** (automatic overdrive) to have better traction when you are starting on ice, snow, or other slippery surfaces.

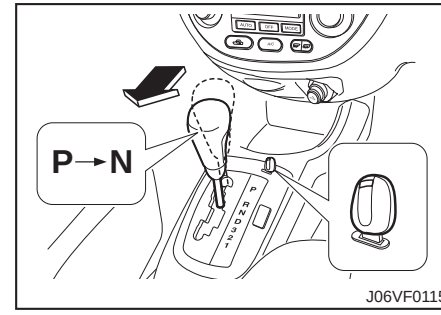


Shift lock control system

Your vehicle has an automatic transmission shift lock control system. With the ignition on, you have to apply the brakes before you can shift out of **P** (park).

If you can not shift out of **P** (park):

1. Switch off the ignition and remove the key.
2. Apply and hold the brake pedal.
3. Insert the ignition key into the transmission shift lock slot.
4. Shift the gear lever to **N** (neutral).
5. Remove the key from the slot.
6. Start the engine and shift the transmission into the desired position.
7. Refer to your Holden Dealer as soon as possible.



AUTOMATIC TRANSMISSION cont.*

Automatic transmission emergency operation

If a problem is detected with the automatic transmission, the Malfunction Indicator Lamp illuminates.

In this situation, the transmission may not shift automatically, or shifting may be much harsher then normal. Have the vehicle serviced as soon as possible by your Holden Dealer.

If the malfunction indicator lamp stays on after starting the engine and the transmission does not shift, see "Shift lock control system" earlier in this section for more information.

Operating notes

- Do not go from **P** or **N** to **R** or **D** with the accelerator pedal depressed.
- When driving down a long hill, reduce your speed and select a lower range. The engine will provide a braking effect. Remember if you ride the brakes, they may overheat, resulting in reduced performance. This is particularly important when towing.
- Be careful when accelerating, shifting up, shifting down or braking on a slippery surface. The abrupt change in engine speed, such as sudden acceleration or engine braking, could cause the drive wheels to spin or skid.
- Do not depress the accelerator pedal with the brakes on in either **1**, **2**, **3**, **D** or **R**. This would overheat the transmission.
- Do not use the accelerator pedal to hold the vehicle on a slope, use the brakes.
- Do not coast the vehicle in **N** as this lessens your control and the engine braking power.
- Always slow down in gusty crosswinds.
- Refer to *Automatic transmission* in chapter 7, for checking automatic transmission fluid level.

ANTI-LOCK BRAKE SYSTEM (ABS)*

Anti-lock Brake System (ABS) continuously monitors the vehicle's brake system and prevents the wheels from locking, irrespective of the road conditions and tyre grip. It starts to regulate the braking effect as soon as a wheel shows a tendency to lock. The vehicle remains steerable, even in the event of panic braking, for instance on bends or when swerving to avoid an obstacle.

Do not let this special safety feature tempt you into taking risks when driving. Traffic safety can only be achieved by adopting a responsible driving style.

In an emergency braking situation the driver should keep full force on the brake pedal, without pumping the brake pedal. Pumping the brake pedal when ABS is fitted will reduce the braking efficiency.

The ABS warning lamp is illuminated for a few seconds when the ignition switch is turned to the ON position. If it does not go out, or if it comes on during driving, there is a defect in the ABS. The vehicle's brake system remains operational but without ABS assistance. You should consult your Holden Dealer as soon as possible.

The braking effect is regulated by the ABS every millisecond during braking.

When your vehicle is in a critical braking condition, ABS makes itself noticeable through pulsing of the brake pedal and the noise of the regulation process, thereby reminding you to match your speed to the road conditions, even though it is keeping control of the braking.

Shortly after driving away, the system performs a self-check. The self-check may be audible.

Brake pedal

Where possible, avoid braking hard. Smooth operation of the brake pedal will increase the life of the brakes and reduce the wear on the braking system. When the vehicle is descending a steep slope, it is advisable to use the foot brake in combination with the engine braking effect.

Brake pedal free play

If under normal vehicle operation the brake pedal develops abnormal behaviour, see your Holden Dealer.

Disc brake wear indicators

The front disc brakes have built-in wear indicators which make a high pitched squealing or cricket-like warning sound when the brake lining is worn to where new linings are needed. This sound can come and go, or be heard all the time when the wheels are rolling. This noise may stop when the brake pedal is pushed down firmly. Consult your Holden Dealer and have your brakes checked if you hear this noise. Extensive damage can result if the linings are not replaced when needed.

CHAPTER 5

Fuel

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Reducing fuel consumption 5-5

*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

FUEL

EXHAUST WARNING: CARBON MONOXIDE POISONING

- Exhaust gases contain carbon monoxide, a dangerous gas, which can cause unconsciousness and even death to both humans and animals.
- You could inhale the gases if the exhaust system on your vehicle is faulty.
- To protect against exhaust gases entering the vehicle, the exhaust system and body should be inspected:
  - each time the vehicle is serviced,
  - whenever a change is noticed in the sound of the exhaust system,
  - whenever the exhaust system, underbody or rear of the vehicle is damaged.
- Take the vehicle to your Holden Dealer if you think your vehicle needs inspecting for any of the above reasons.
- Do not sit (or leave children or pets) in a parked vehicle for any extended period of time with the engine running. Turn the fan on using any setting that brings outside air into the vehicle. Do not run the engine in an enclosed area (such as a garage) any longer than needed to move the vehicle.
- Be sure to seal any unused top strap anchor location holes with the supplied plug or with a suitable bolt. Otherwise exhaust gas may enter the vehicle through these holes. Refer to *Child restraints* in chapter 3.

PETROL WARNING

- Petrol is extremely flammable and highly explosive.
- Always switch off the engine and any mobile phones when refuelling.
- Do not smoke or allow open flames or sparks near the vehicle when refuelling.
- If petrol fumes are smelt while driving, the cause should be found and corrected without delay by a Holden Dealer.
- Static electricity can ignite fuel vapour. Only use pumps, hoses and containers that are properly grounded when filling up with fuel.
- To avoid injury, to you and to others, read and follow all instructions on the petrol station pump.

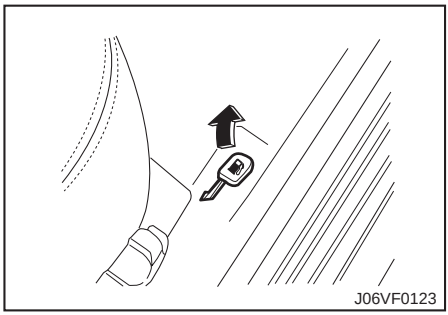
ETHANOL WARNING

- Under no circumstances should you use fuel containing more than 10 % ethanol. Use of such fuels may result in engine malfunction, starting and operating difficulties, and materials degradation. These adverse effects could result in permanent damage to your vehicle and personal injury. Purchasing your fuel from a reputable fuel retailer may reduce the risk of purchasing fuel with more than 10 % ethanol or fuel which contains abnormal fuel properties.
- It is also important to note that when ethanol blends are used, fuel consumption can be expected to increase due to the lower energy content of ethanol.

FUEL FILLING

To release the fuel filler door, pull up on the release lever. The release lever is located near the front corner of the driver's seat.

Remove the fuel cap by turning it anticlockwise.



FUEL CAP WARNING
If you open the cap rapidly while pressure in the tank is high, fuel may spray out from the tank. Before you fully open the cap, turn it slightly to release the pressure from inside the tank.

After refuelling, turn the fuel cap clockwise until a clicking sound is heard, then push the fuel filler door closed. When closing the fuel door, make sure that it latches.

Note Use UNLEADED PETROL of 91 octane rating or higher.

High octane unleaded petrol (premium etc.) may be used, but is not required for your vehicle. The use of fuel with a lower octane rating than recommended may cause engine knock. Continued use of such fuel can cause engine damage and void the warranty. If you detect a heavy engine knock even when using fuel of the recommended octane rating, have the engine checked.

Petrol tanks should always be filled at the intermediate or fast fill rate. Do not add any more petrol after the petrol filler first clicks off or petrol blows back - as this allows room for the petrol to expand inside the tank.

If you accidentally spill fuel on the vehicles exterior surfaces, it can damage the paint. Wash it off as soon as possible.

Petrol filler nozzle restrictor

To help protect the atmosphere, your vehicle has been designed to operate on unleaded petrol. A petrol nozzle restrictor is fitted to ensure that only unleaded petrol is used. This allows the smaller diameter unleaded petrol nozzle to open the hinged flap inside the filler neck, so that petrol can be added to the tank. The leaded petrol nozzle is wider and therefore cannot open the flap.

WARNING
The use of fuel, other than the fuel specified, may cause serious damage to your vehicle and may void your warranty. Only clean fuel of good quality should be used.

PETROL – EMISSION CONTROL

Your vehicle is fitted with emission control systems which are designed to reduce the amount of hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) that are emitted from the engine and fuel system into the atmosphere. HC and NOx, when exposed to sunlight under certain conditions can contribute to smog. In addition, carbon monoxide is toxic when it becomes highly concentrated in the air.

The three major emission control systems fitted to your vehicle are:

- **Evaporative emission control system**
  This system is designed to prevent the escape of fuel vapour from the fuel system and recycles it through the normal combustion process.
- **Crankcase emission control system**
  This system is designed to prevent blow-by gases from escaping into the atmosphere and recycles them through the combustion process.
- **Exhaust emission control system**
  The various components of this system operate collectively to limit HC, CO and NOx emissions in the exhaust gas. The exhaust emission control system is comprised of components including electronic control of spark, fuel and idle speed. In addition, Australian vehicles have a catalytic converter and closed loop mixture control system.

For detailed information on the operation, servicing and repair procedures for these systems, refer to the Service/warranty booklet and/or the emission label inside the engine compartment (on the passenger side strut tower) of your vehicle.

Owner responsibility

Vehicles sold and serviced within Australia have been designed to comply with Australian Design Rules and State Regulation emission requirements.

The engine, engine control system or exhaust system of the vehicle must not be modified in any way. Any change to the design may increase the emissions or otherwise defeat the intent of the regulations.

WARNING
Any person who removes, modifies or hinders any part of the emission control system may be contravening Australian Design Rules, refer to A.D.R. 28/01 (External Noise for Motor Vehicles), A.D.R. 37/01 (Emission Control for Light Vehicles) and A.D.R. 79/00 (Emission Control for Light Vehicles). It is also illegal to drive a vehicle modified in this way.

First drive

When the vehicle is driven for the first time, wax and oil on the exhaust system may evaporate, producing smoke-like emissions that should not be inhaled. Allow wax and oil to evaporate while the vehicle is in the open air.

Maintenance requirements

To ensure continuing compliance with the regulations, you must maintain your vehicle's emission control system as per your vehicle's service manual, at the frequency shown in the maintenance schedule in the Service/warranty booklet. It is recommended the necessary servicing be performed by an authorised Holden Dealer who has the specialised servicing equipment and trained personnel available to ensure the adjustments and services specified are carried out.

REDUCING FUEL CONSUMPTION

Engine

Maintain the engine in peak mechanical condition by having it serviced regularly in accordance with the maintenance schedule in the Service/warranty booklet. This ensures items such as: the spark plugs and air cleaner are maintained for minimum fuel usage and peak engine performance.

Tyre pressure

Keep the tyres at the recommended pressures. Under-inflated tyres create extra rolling resistance and waste fuel. Refer to *Tyres* in chapter 7.

Incorrect tyre pressures can also cause uneven and premature tyre wear.

Wheel alignment

Maintain correct front wheel alignment. Incorrect alignment makes the front wheels drag which wastes fuel and causes uneven and premature tyre wear.

Warm ups and idling

Avoid long engine warm ups. They are unnecessary and waste fuel. An engine takes approximately five minutes to reach its efficient operating temperature and it does this most effectively when driving.

You should also avoid long engine idling. If you have to wait for more than a couple of minutes, switch off the engine to conserve fuel.

Accelerating, driving and braking

Accelerate gently and avoid rapid accelerating from lights or stop signs. Sudden bursts of speed, full throttle acceleration and hard braking are certain fuel wasters.

Drive the vehicle at steady speeds where possible (after run-in). It is desirable to reach top gear as soon as possible, but under no circumstances should you force the engine to labour in top gear.

Riding the brake

Do not rest your foot on the brake pedal when you do not intend to brake, as this can overheat the brakes, increase brake pad wear, damage the brakes and waste fuel.

Air conditioning

Switch off the air conditioning when not required. However, once every two weeks, with the engine running, switch the air conditioner on for five to 10 minutes, even in winter, to lubricate the seals.

Loading

Unnecessary weight increases fuel consumption, especially when accelerating.

NOTES

CHAPTER 6

Emergencies

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*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

CUSTOMER ASSISTANCE

We want you to be happy with your new vehicle, together with the people you deal with while you have the vehicle.

Normally, any problems with the sales, operation, servicing or the validity of original equipment supplied with your vehicle will be handled by your Holden Dealer's Sales and Service Department.

We realise however that, with the best intentions, misunderstandings sometimes occur.

Therefore, we suggest you discuss any concern with one of the Holden Dealer's management people. If you have not received satisfaction from the Sales Manager or Service Manager – go to the General Manager or to the Dealer Principal.

By now you should have satisfaction. If not, the Holden Customer Assistance office is at your disposal.

The Holden Customer Assistance representatives can be telephoned from anywhere within Australia for only the cost of a local call. The contact number is:

1800 033 349

If your concern relates to parts/accessories and you have made contact with the dealer or distributor without satisfaction, you may contact Holden Service Parts Operations on (03) 9797 7341.

Naturally, telephoning is the quickest and the best way to contact. However, if you prefer to write the address is:

The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne 3001

Your letter should clearly outline your concern or query, and include the following:

- Your name and address.
- Telephone numbers, both private and business.
- Servicing dealer's name and address.
- Vehicle model.
- Vehicle identification number (I.S.O.V.I.N.), refer to the inside front cover of the service booklet in your vehicles glovebox.
- Date of purchase.
- Current odometer reading.

Most of this information will be found on the Vehicle Identification Certificate, located inside the front cover of the service booklet in your vehicles glovebox.

Before you write however, remember that the telephone is the quicker and more efficient means of communication.

FOR NEW ZEALAND HOLDEN OWNERS

The information in this Owner's Handbook applies primarily to Australian Holden vehicles and there may be some differences to the Warranty and Owner Assistance provisions for New Zealand. Applicable details for New Zealand are set out in the Holden Warranty and Owner Assistance Information booklet enclosed in the New Zealand glovebox wallet.

New Zealand Assistance can be reached on:

0800 HOLDEN (0800 465 336)

This number provides access to New Zealand Roadside Assistance as well as New Zealand Customer Assistance.

If you prefer to write the address is:

The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne
Australia 3001

FLAT TYRE

WARNING

- All passengers must be out of the vehicle when it is being jacked.
- Do not jack a vehicle with a trailer attached, remove the trailer first.
- Only jack the vehicle on hard, level surfaces.
- Use the jack only at the designated lifting points. Use in other locations may result in the vehicle falling off the jack, or damage to the vehicle.
- Do not start or run the engine while the vehicle is supported by the jack.
- Use the jack only for lifting the vehicle when changing wheels.
- Do not get under a vehicle supported only by a jack; use vehicle support stands.
- Vehicles with alloy wheels have a steel spare wheel fitted. Drive carefully and do not exceed 80 km/h when a combination of alloy and steel wheels are fitted on the vehicle. Although the spare tyre was fully inflated when the vehicle was new, it can lose air over time. Check the inflation pressure regularly. After installing the spare tyre on the vehicle, stop as soon as possible to check the inflation pressure is correct. Have the flat tyre repaired or replaced and installed back on to the vehicle as soon as possible.

1. Park on level surface, ensure the wheels are pointing straight ahead and set the park brake firmly.
2. Remove the ignition key (to lock the steering) and place manual transmissions* in reverse gear or automatic transmissions* in park.

Removing the jack and tools

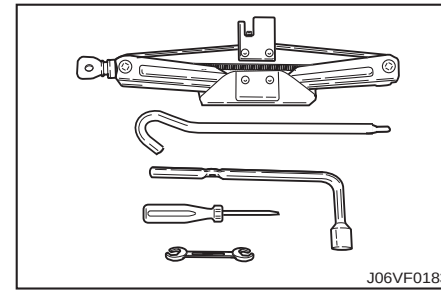
Sedan/hatchback models:

The jack and tool bag are in a storage compartment in the floor of the luggage compartment area.

Remove the floor cover to access the compartment.

Wagon:

1. To access the spare wheel and tools in the wagon, lift up and remove the luggage floor.
2. Lift up the floor storage compartment.
3. Release the prop from its retainer and put the prop into the slot.
4. Remove the spare wheel.
5. To access the tools, pull the strap on the tool box cover upward.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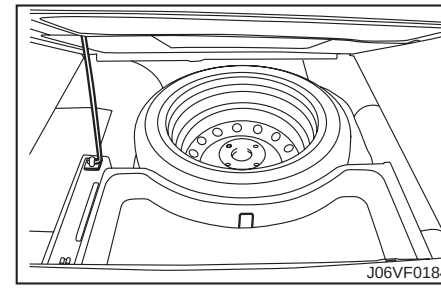
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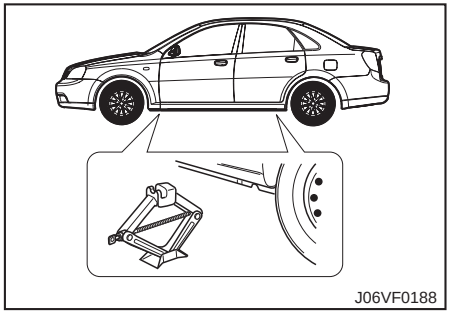
FLAT TYRE cont.

1. Remove the jack, jacking tools and spare tyre from the rear luggage compartment area.
2. If your vehicle has bolt-on wheel covers, remove the wheel covers by completely loosening the plastic nut caps with the aid of the wheel wrench.
3. Use the wheel wrench to loosen the wheel nuts by one turn each.
4. Attach the jack handle and wheel wrench to the jack.
5. Turn the jack handle clockwise to raise the jack lift head slightly.
6. Place the jack under the jacking point nearest the tyre you want to change.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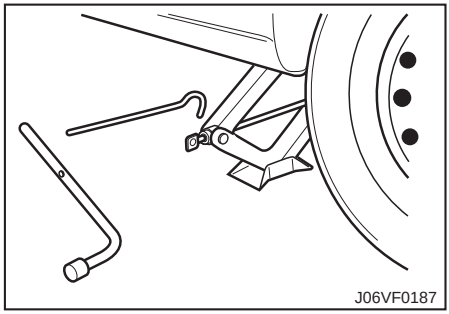
WARNING
- Failure to position the jack as described could result in serious personal injury or vehicle damage caused by the vehicle slipping off the jack.
- Do not get under a vehicle supported only by a jack, use vehicle support stands.

7. Turn the jack handle clockwise to raise the jack.
8. Raise the jack until the jack head fits firmly into the notch. Then raise the vehicle off the ground until there is room for the spare wheel to fit.

   Do not raise the vehicle off the ground more than necessary to change the wheel.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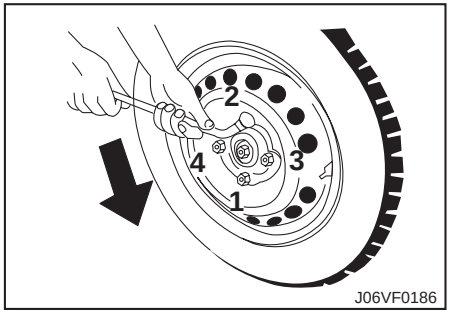
9. Remove the wheel nuts and take off the wheel.



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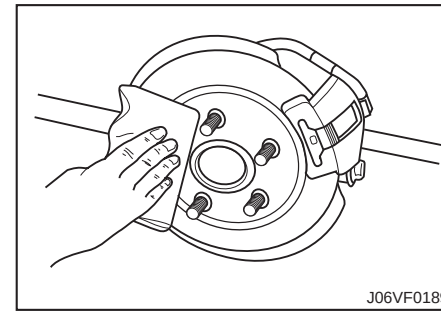
FLAT TYRE cont.

10. Remove any dirt or rust from the wheel nuts and studs, mounting surfaces and spare wheel.
11. Place the spare wheel on the wheel mounting surface.
12. Install the wheel nuts and tighten by hand.
13. Turn the jack handle anticlockwise to lower the vehicle.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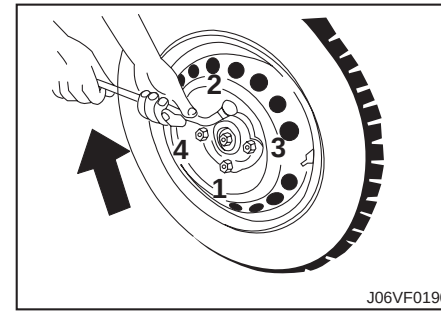
14. Tighten the nuts firmly with the wrench in the pattern shown. The proper torque is 120 Nm (Newton metres).
15. Reinstall the wheel cover*. When you install a bolt-on wheel cover, tighten the plastic nut caps firstly by hand and then with the wheel wrench.
16. Store all the equipment in the proper storage area. To reduce rattling, stow the jack, jack handle and tools securely in the floor storage compartment.
17. Store the flat tyre where the spare wheel was stored. Have the flat tyre fixed or replaced as soon as you can in case you need to use it again.



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WARNING

As soon as possible after changing a wheel, you should have the wheel nuts tightened with a torque wrench to 120 Nm (Newton metres) evenly in the sequence shown. Wheel nuts which have not been properly tightened could eventually allow the wheel to come off while the vehicle is moving!

Also have the new wheel balanced on the vehicle.

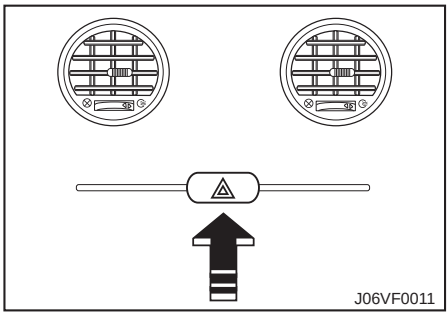
TOWING A DISABLED VEHICLE

Hazard warning

Use the hazard warning to warn other drivers any time your vehicle becomes a traffic hazard, day or night. Avoid stopping on the roadway if possible.

Switch the hazard warning on or off by pressing the hazard warning switch, which is located in the middle of the dashboard. Both indicator symbols on the instrument panel will flash simultaneously, and all four external signal lights will flash continuously.

The hazard warning works with the ignition switch in any position.



Emergency towing

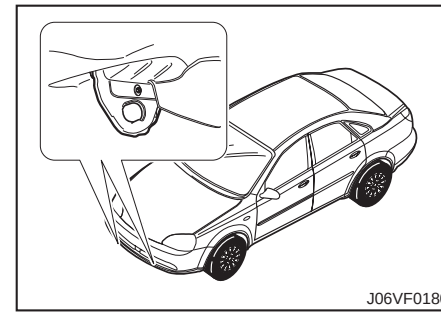
Proper lifting or towing equipment is necessary when lifting or towing the vehicle to prevent damage. State and local laws must be followed. In an emergency, the vehicle may be towed on all four wheels in the following manner:

1. Fit the towing equipment to the front towing eyes located under the front bumper. Use of two hooks with the load evenly spread, rather than one, is recommended. Do not attach towing equipment to the bumpers or brackets, suspension or cross members.
2. Place the transmission in **N** (neutral) and release the park brake.
3. Turn the ignition key to the **ACC** (accessories) position. This frees the steering lock and allows the correct operation of windscreen wipers and turn signals.
4. For safety and to prevent damage to the vehicle, avoid jerky movements and drive slowly during towing operations.
5. Remember that power assist for brakes and power steering are not available when the engine is switched off. The brakes and steering still function, but take greater effort.
6. To prevent exhaust fumes from the towing vehicle entering the towed vehicle, close the windows and move heating and ventilation controls to the ‘recirculate’ position.
7. Vehicles fitted with automatic transmissions must not be towed for more then 55 km or over 55 km/h.
8. Vehicles with damaged transmissions must not be towed.
9. Only the driver should be inside a towed vehicle.

TOWING A DISABLED VEHICLE cont.

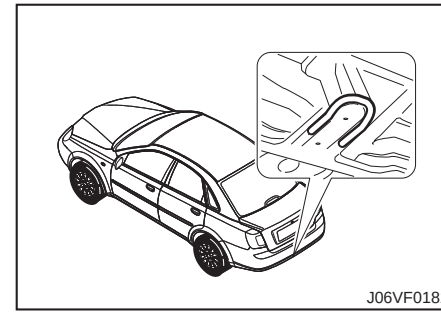
Front towing eyes

The front towing eyes are provided under the front bumper. A driver must be in the vehicle to steer it and operate the brakes. Towing in this manner may be done only on hard-surfaced roads for a short distance and at low speeds. Also, the wheels, axles, drive train, steering and brakes must be in good condition.


J06VF0180

Rear towing hook

When towing another vehicle, use the rear towing hook. It should be used only in an emergency situation.


J06VF0181

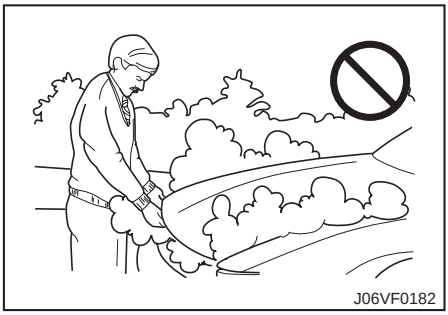
ENGINE OVERHEATING

WARNING
Immediate action is required if the engine overheats. This can be indicated by the temperature gauge needle moving to the red zone, by steam escaping from under the bonnet, a loss of power or a loud knocking or pinging noise.

Continued driving even for a short time could result in a fire or vehicle damage.

If the coolant temperature gauge needle should move to the H position and remain there for more than 30 seconds, pull over to the side of the road. Leave the engine idling while you step out of the vehicle to check if the cooling fan is working.

WARNING
Do not open the bonnet if you can see or hear steam or coolant escaping from the engine compartment. Wait until no steam or coolant can be seen or heard before opening the bonnet.


J06VF0182

If the fan is working and the temperature gauge needle has not returned to its normal position within a few minutes, stop the engine and remove the ignition key.

Look for leaks from the radiator hoses and connections, heater hoses and connections, radiator and water pump and fan belt. Take care when checking all of these areas as they may still be hot.

If you find a major leak or other problems that may have caused the engine to overheat, do not run the engine until these problems have been corrected.

If you do not find anything wrong then you should check the engine coolant level in the radiator reservoir tank. Refer to *Check locations* in chapter 7, for the coolant location.

WARNING
Do not remove the cooling system cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.

ENGINE OVERHEATING cont.

If you see or hear steam coming from the engine, stop and switch the engine off. Do not open the bonnet until the engine has cooled down.

If the temperature gauge is high with no sign of steam:

1. Pull over and stop the vehicle as soon as it is safe to do so.
2. Switch off your air conditioner.
3. Run the engine at idle speed for about 3 minutes.
   The engine cooling fan should be running.

If the fan is not operating and steam is visible:

1. Switch off the engine.
2. Move away from the vehicle without opening the bonnet.
3. Let the engine cool down.
4. When steam is no longer visible, carefully open the bonnet.
5. Have the vehicle serviced as soon as possible.

If the fan is operating with no sign of steam:

1. Open the bonnet.
2. Let the engine idle until it is cool.
3. Check the coolant level.

If the fan is operating but the engine temperature does not fall:

1. Switch off the engine.
2. Open the bonnet.
3. Let the engine cool down.
4. Check the coolant level.

If the coolant level is low, there may be a leak in the cooling system – check for leaks in the following areas:

1. Radiator
2. Radiator hoses
3. Radiator connections
4. Heater hoses
5. Heater hose connections
6. Water pump.

ENGINE OVERHEATING cont.

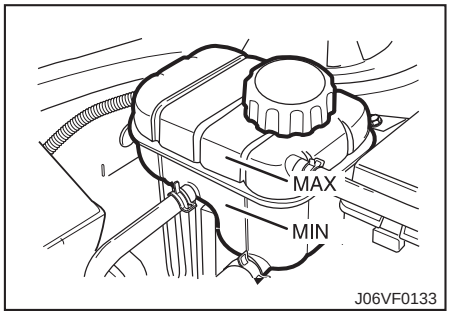
WARNING
The cooling system is pressurised, so to avoid injury please read all of the following instructions before attempting to add coolant.

Without undoing the coolant tank cap, look at the level of the coolant in the see-through coolant tank.

When the engine is hot the level should be above the **MIN** mark.

If the level is at or below the **MIN** mark when the engine is hot, coolant will need to be added as follows:

- Allow the engine to cool a little.
- The coolant tank is pressurised, so cover the cap with a thick cloth. Remove the cap very slowly to allow any pressure to escape.
- If water is added it should be clean.
- Top up the coolant tank to the **MAX** mark while the engine is idling.
- Replace the coolant tank cap.



WARNING
Do not spill coolant on the vehicle's exterior surfaces. It can damage the paintwork. If you do, wash it off immediately.

If after taking one or more of the above actions the temperature gauge no longer indicates an overheat condition you can resume driving at a reduced speed. Return to normal driving after 10 minutes if the temperature gauge does not again show an overheat condition. If overheating occurs again you should have the vehicle attended to, as soon as possible, by a Holden Dealer.

The engine may temporarily operate at high temperatures during demanding operating conditions, especially on hot days, including:

- Climbing a long hill.
- Stopping immediately after high speed driving.
- Idling for long periods in traffic.
- Towing a heavily laden trailer.

Note It may help to switch off the air conditioner in these conditions.

Refer to *Engine coolant level* in chapter 7, for instructions to help protect your cooling system from overheating.

FLAT BATTERY

WARNING

- Do not push start or tow start your vehicle. If unburnt fuel were to reach the catalytic converter and ignite, the converter could overheat or be destroyed by backfire. Therefore, if the battery is flat, you can jump start, but not push start your vehicle.
- To protect your vehicle's electrical system never disconnect the battery when the engine is running. Never start the engine while the battery is disconnected. Never charge the battery while it is still connected to the vehicle, first disconnect the negative cable, then the positive cable. The polarity of the battery, i.e. the connections for the positive and negative cables, must not be interchanged when reconnecting. First connect the positive cable, then the negative cable.

If your vehicle does not start due to a discharged battery, it can often be started by using energy from another battery, a procedure called jump starting.

Please read the following procedure before attempting to jump start your vehicle.

However, if after reading the following procedure you are still unsure about jump starting we strongly recommend for your safety and to avoid damage to your vehicle that you leave the starting to a competent mechanic.

Jump starting

WARNING

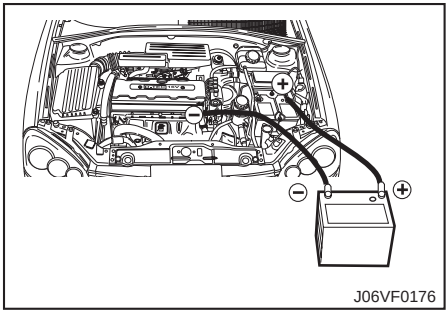
Batteries produce explosive gases, contain corrosive acids and supply levels of electrical current high enough to cause burns. Therefore, adhere to the following when working near a battery:

- Do not use open flames or sparks near the battery.
- Do not smoke near the battery.
- Wear eye protection such as safety glasses and avoid leaning over the battery.
- Battery acid is corrosive. If it gets on your skin, wash with plenty of water immediately. If it gets in your eyes you should not only flush with lots of water but should also seek medical help. Battery acid also damages paint and fabrics. To minimise damage, wash off immediately.
- Be sure any batteries that have filler caps are properly filled with fluid.
- Remove rings, metal watch bands and other metal jewellery before working around the battery.
- Never use a quick charger to start the engine.
- If you have a telephone fitted to the vehicle, you should remove the fuse for the telephone before jump starting. Remember to replace the fuse afterwards.

FLAT BATTERY cont.

1. The battery in your vehicle has a negative earth and a 12 volt rating. The battery in the other vehicle **must** also have a negative earth and a 12 volt rating.
2. Position the two vehicles so they are not touching, apply the park brakes, if your vehicle is fitted with an automatic transmission, place in **P** (park) or for a manual transmission, place into neutral. Turn the ignition switch to the LOCK position and switch off all the lights and accessories in both vehicles, except the hazard warning flasher or any lights needed for the work area.
3. Attach one end of the red jumper lead to the positive terminal of the booster battery (identified by a red colour, + or **P**) and the other end of the red jumper lead to the positive terminal of the flat battery.
4. Attach one end of the black jumper lead to the negative terminal of the booster battery (identified by a black colour, - or **N**) and the other end of the black jumper lead to a solid stationary, metallic point on the engine of the vehicle with the flat battery.

   Note Do not connect directly to the negative terminal of the battery, as this could cause sparks.


J06VF0176

5. When making all connections ensure the jumper lead clamps do not touch each other. Also, ensure the jumper leads are not on or near pulleys, fans or other points that will move when the engine is started.
6. Start the engine in the assisting vehicle and run the engine at a moderate speed. Then start the engine with the flat battery. Attempts to start the engine with the flat battery should be made at one minute intervals and should not last longer than 15 seconds.
7. After starting, allow both engines to idle for approximately 3 minutes with the leads still connected.
8. Leave the engine running while removing the jumper leads (in the exact reverse order they were installed). While removing each clamp, ensure it does not touch any other metal while the other end remains attached.

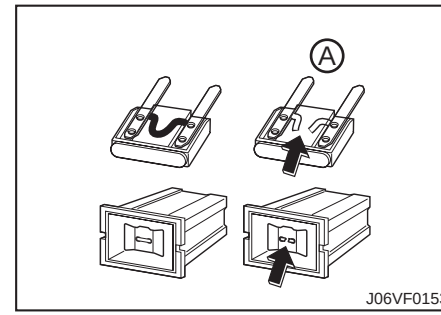
FUSE REPLACEMENT

FUSE BOXES

There are two fuse boxes; one is on the driver's side wall of the dashboard, visible when the door is open and the other is located in the engine compartment next to the coolant reservoir.

Spare fuses and a fuse extractor are located in the engine compartment fuse block.

To determine whether or not a fuse is blown, it is necessary to pull out the suspect fuse and examine the wire in the fuse. A blown fuse can be recognised by its melted wire. If a fuse blows twice in a row a fault is indicated. The cause should be located and fixed by a Holden Dealer.

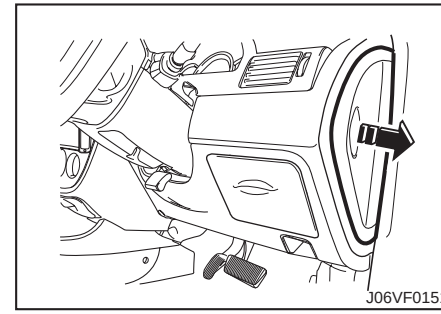


J06VF0153

Dashboard

To open the fuse cover in the dashboard, open the driver's side door, pull the top of the cover out.

Always ensure the cover is in place after use. The fuse amperage is shown on the inside of the fuse cover.


J06VF0151

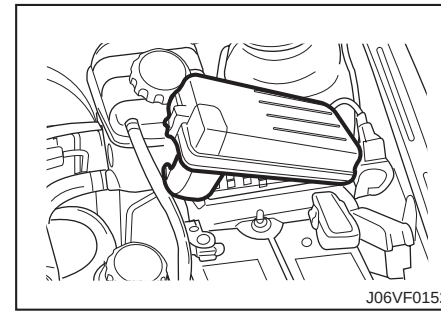
Engine compartment

This fuse box is located on the passenger side of the engine compartment, it contains circuit fuses, main fuses and relays.

To remove the cover, press the catch on the side of the fuse box toward the engine and release the two tabs at the opposite side.

Always ensure the cover is correctly fitted after replacing or inspecting fuses.

The fuses amperage are shown on the inside of the fuse cover.


J06VF0152

FUSE REPLACEMENT cont.

DASHBOARD

1 10 A AIR BAG*	8 25 A WIPER	15 10 A AUDIO/CLOCK
2 10 A ECM		16 15 A EXTRA JACK*
3 15 A TURN SIGNAL	9 10 A ABS*	17 15 A CIGAR LIGHTER
4 10 A CLUSTER	10 10 A IMMOBILIZER*	18 10 A BACK-UP
	11 10 A TCM*	19 15 A REAR FOG*
5 10 A ENG FUSE	12 15 A HAZARD	20 15 A ATC*/CLOCK
6 20 A HVAC	13 15 A ANTI-THEFT*	21 15 A AUDIO
7 15 A SUNROOF*	14 10 A DIAGNOSIS	22 10 A IMMOBILIZER*

CAUTION: USE THE DESIGNED FUSE ONLY
* OPTIONAL EQUIPMENT

J06VF0155

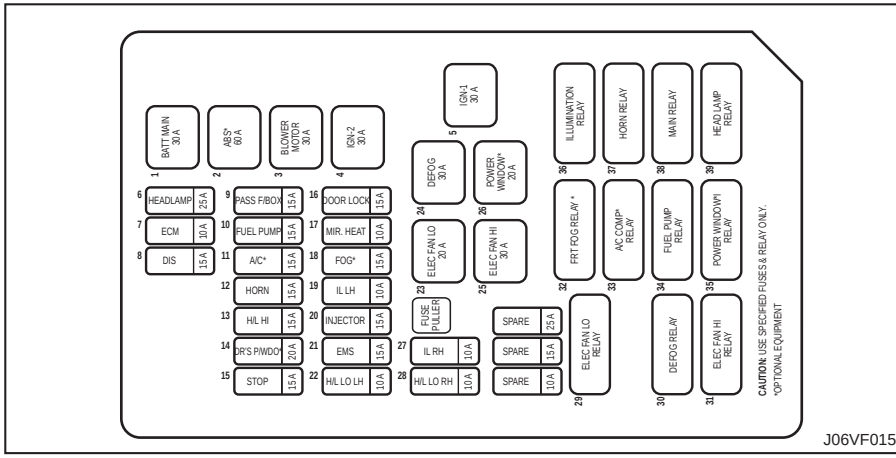
FUSE REPLACEMENT cont.

Dashboard index

No.	Circuits protected
1	Airbag (10A)
2	Electronic control module (10A)
3	Turn signal (15A)
4	Cluster (15A)
5	Engine (10A)
6	Heating and air conditioning system (20A)
7	Sunroof (if equipped) (15A)
8	Wiper (25A)
9	Anti-lock brake system (if equipped) (10A)
10	Immobiliser (10A)
11	Traction control module (if equipped) (10A)
12	Hazard flashers (15A)
13	Anti-theft system (if equipped) (15A)
14	Diagnosis (10A)
15	Sound system; clock (10A)
16	Extra jack (if equipped) (15A)
17	Lighter (15A)
18	Backup lamps (10A)
19	Rear fog lamps (if equipped) (15A)
20	Automatic climate control (if equipped); clock (15A)
21	Sound system (15A)
22	Immobiliser (if equipped) (10A)

FUSE REPLACEMENT cont.

ENGINE COMPARTMENT



Engine compartment index

No.	Circuits protected
1	Main battery (30A)
2	Anti-lock brake system (if equipped) (60A)
3	Blower motor (30A)
4	Ignition 2 (30A)
5	Ignition 1 (30A)
6	Headlamp (25A)
7	Electronic control module (10A)
8	Anti-lock brake system warning light module (10A)
9	Interior fuse block (15A)
10	Fuel pump (15A)
11	Air conditioning system (10A)
12	Horn (15A)
13	High beam headlamp (15A)
14	Driver's power windows (20A)
15	Stop lamps (15A)
16	Door locks (15A)
17	Heated mirror (10A)

FUSE REPLACEMENT cont.

Engine compartment index cont...

No.	Circuits protected
18	Fog lamp (if equipped) (15A)
19	Left illumination (10A)
20	Injector (15A)
21	Engine management system (15A)
22	Left low beam headlamp (10A)
23	Left low beam headlamp (10A)
24	Low speed electric fan (20A)
25	Demister (30A)
26	High speed electric fan (30A)
27	Power windows (20A)
28	Right illumination (10A)
29	Right low beam headlamp (10A)
30	Low speed electric fan relay
31	Demister relay
32	High speed electric fan relay
33	Front fog lamp relay (if equipped)
34	Air conditioning compressor relay
35	Fuel pump relay
36	Power windows relay
37	Illumination relay
38	Horn relay
39	Main relay
40	Headlamp relay

FUSE REPLACEMENT cont.

Relays

Relays are also contained in this fuse box; their location in the fuse box and their function is indicated on the inside of the fuse box cover.

WARNING
When replacing a fuse, ensure the replacement fuse is of the specified amperage. Never install a wire or similar as it could damage electrical components and cause a fire.

BULB REPLACEMENT

When replacing a bulb, turn off the related switch.

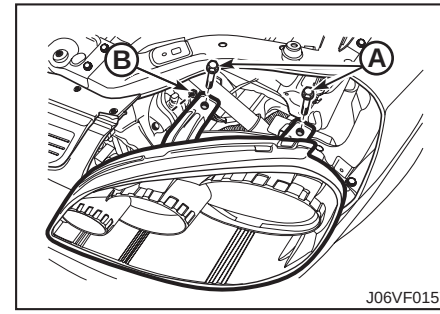
Do not touch new bulbs with bare hands. Greasy fingers causes stains, which evaporate, and result in a dull light. Grease spots on Halogen bulbs will, within a short time, lead to bulb failures. Inadvertently stained bulbs may be cleaned with tissue paper, or a clean, non-fuzzy cloth, using alcohol or white spirits.

When replacing bulbs do not exceed the wattage given on the defective bulb base.

Detailed procedures for headlight aiming are given in the relevant service manual for your vehicle. However, because headlamp aiming is a safety item it is recommended that you have it carried out by your Holden Dealer.

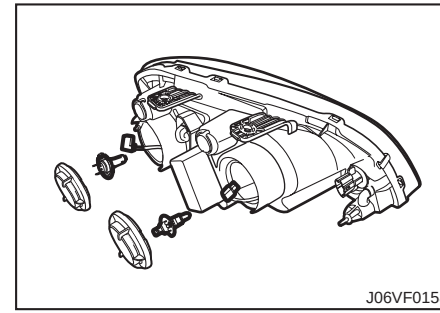
Headlamps (sedan and wagon)

1. Open the bonnet.
2. Remove the two bolts (A), and one nut (B).
3. Disconnect the wiring harness connector from the headlamp.
4. Remove the headlamp cap.
5. Release the spring retaining the bulb.



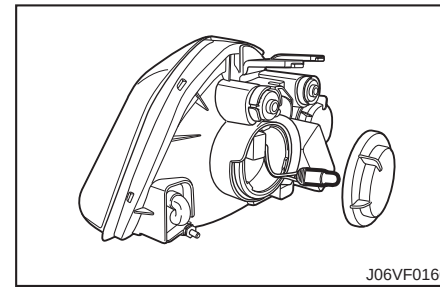
J06VF0157

6. Remove the bulb and replace.
7. Reverse the steps to install a new bulb.


J06VF0158

Parking lamps (sedan and wagon)

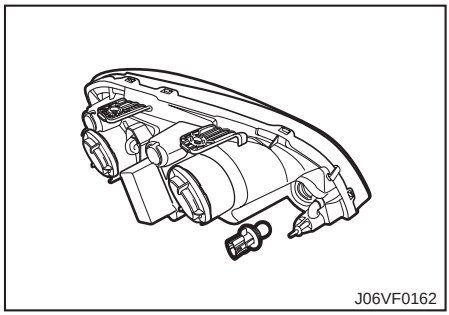
1. Open the bonnet.
2. Remove the two bolts, one nut and the headlamp assembly.
3. Disconnect the wiring harness connector from the headlamp
4. Remove the headlamp cap.
5. Pull out the parking lamp bulb assembly located next to the headlamp bulb.
6. Pull the bulb straight out.
7. Reverse the steps to install a new bulb.


J06VF0160

BULB REPLACEMENT cont.

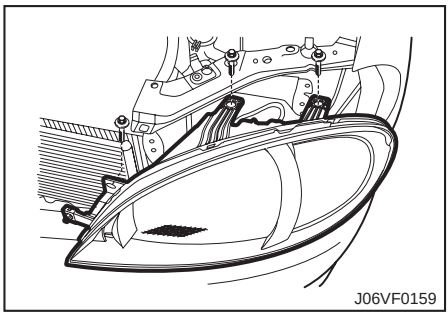
Front [lamps (sedan and wagon)

1. Open the bonnet.
2. Remove the two bolts, one nut and the headlamp assembly.
3. Turn the bulb socket anticlockwise to remove it.
4. Pull the bulb socket out of the lamp housing.
5. Gently push in and turn the bulb anticlockwise to remove it from the socket.
6. Reverse the steps to install a new bulb. When installing the new bulb into the socket, press it in while turning it clockwise. When installing the socket into the housing, rotate the socket clockwise.

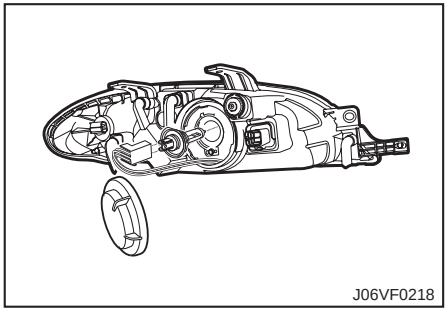

J06VF0162

Headlamps (hatchback)

1. Open the bonnet.
2. Remove the four screws and the radiator grille.
3. Remove the three bolts.
4. Disconnect the wiring harness connector from the headlamp.


J06VF0159

5. Remove the headlamp cap.
6. Release the spring retaining the bulb.
7. Remove the bulb.
8. Reverse the steps to install a new bulb.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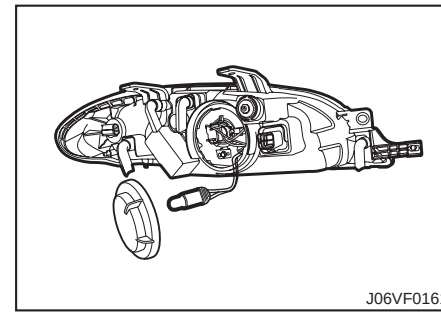
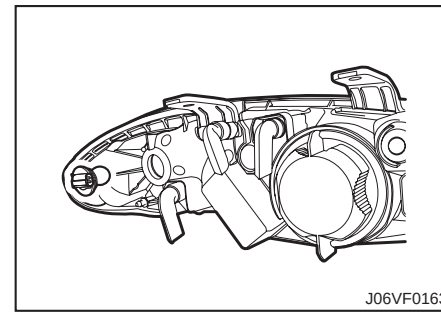
BULB REPLACEMENT cont.

Parking lamps (hatchback)


J06VF0161

1. Open the bonnet.
2. Remove the four screws and the radiator grille.
3. Remove the three bolts.
4. Remove the headlamp cap.
5. Pull out the parking lamp bulb assembly located next to the headlamp bulb.
6. Pull the bulb straight out.
7. Reverse the steps to install a new bulb.

Front turn signal lamps (hatchback)


J06VF0163

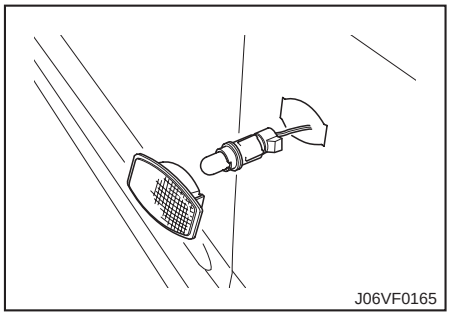
1. Open the bonnet.
2. Remove the four screws and the radiator grille.
3. Remove the three bolts.
4. Turn the bulb socket anticlockwise to remove it.
5. Pull the bulb socket out of the lamp housing.
6. Gently push in and turn the bulb anticlockwise to remove it from the socket.
7. Reverse the steps to install a new bulb. When installing the new bulb into the socket, press it in while turning it clockwise. When installing the socket into the housing, rotate the socket clockwise.

BULB REPLACEMENT cont.

Side turn signal lamps

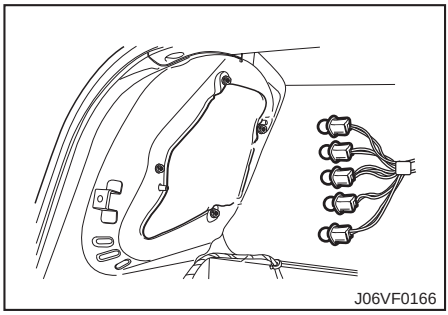
1. Pull the lamp assembly rearward and remove it.
2. Turn the bulb socket anticlockwise.
3. Pull the bulb straight out to remove it from the socket.
4. Reverse the steps to install a new bulb.

   Make sure to push the lamp assembly back to its original position.


J06VF0165

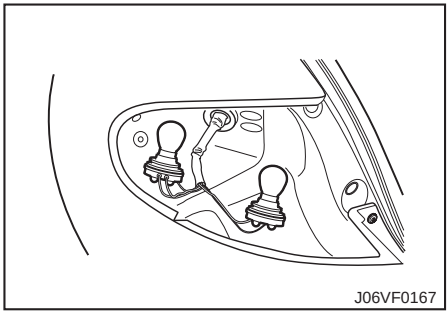
Tail lamps, stop lamps, reverse lamps and rear turn signals (sedan)

1. Open the boot.
2. Open the boot trim cover.
3. Turn the bulb socket anticlockwise to remove it.
4. Gently push in and turn the bulb anticlockwise to remove it from the socket.
5. Reverse the steps to install a new bulb.


J06VF0166

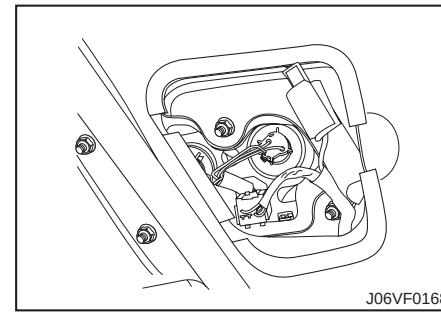
Tail lamps, stop lamps and rear turn signals (hatchback)

1. Open the rear hatch.
2. Remove the two screws and the lamp assembly.
3. Turn the bulb socket anticlockwise to remove it.
4. Gently push in and turn the bulb anticlockwise to remove it from the socket.
5. Reverse the steps to install a new bulb.


J06VF0167

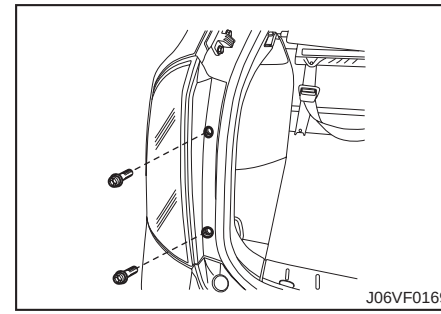
BULB REPLACEMENT cont.

Reverse lamps (hatchback)



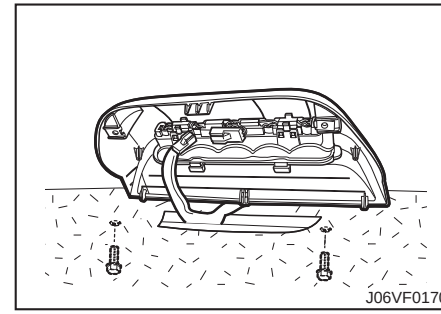
1. Open the rear hatch.
2. Remove the protective cover.
3. Turn the bulb socket anticlockwise to remove it.
4. Gently push in and turn the bulb anticlockwise to remove it from the socket.
5. Reverse the steps to install a new bulb.

Tail lamps, stop lamps, reverse lamps and rear turn signals (wagon)



1. Open the liftgate.
2. Remove the two screws and remove the reflector assembly.
3. Turn the bulb socket anticlockwise to remove it.
4. Gently push in and turn the bulb anticlockwise to remove it from the socket.
5. Reverse the steps to install a new bulb.

Centre high-mounted stop lamp (sedan)

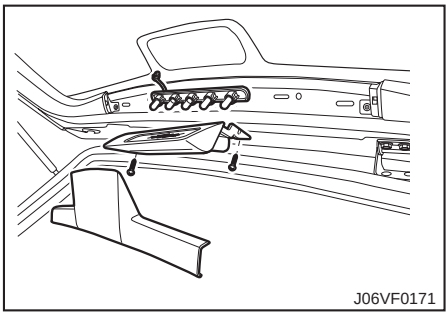


1. Open the boot.
2. Remove two screws from the lamp assembly.
3. Disconnect the wiring harness.
4. Remove the lamp assembly.
5. Remove the two screws and remove the reflector assembly.
6. Pull the bulb straight out to remove it from the socket.
7. Reverse the steps to install a new bulb.

BULB REPLACEMENT cont.

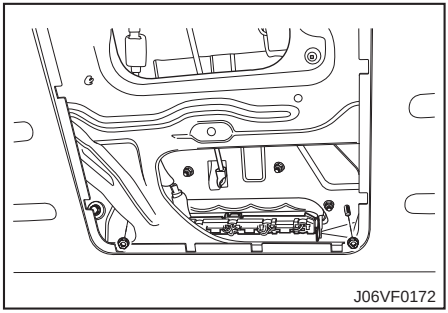
Centre high-mounted stop lamp (hatchback)

1. Open the rear hatch.
2. Pry off the trim and remove the two screws.
3. Remove the bulb socket.
4. Pull the bulb straight out to remove it from the socket.
5. Reverse the steps to install a new bulb.


J06VF0171

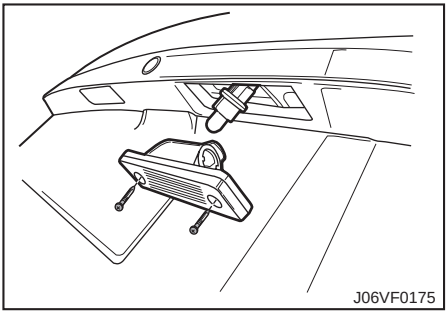
Centre high-mounted stop lamp (wagon)

1. Open the liftgate.
2. Remove the two screws and the lamp cover.
3. Pull the bulb straight out to remove it from the socket.
4. Reverse the steps to install a new bulb.


J06VF0172

Licence plate lamp

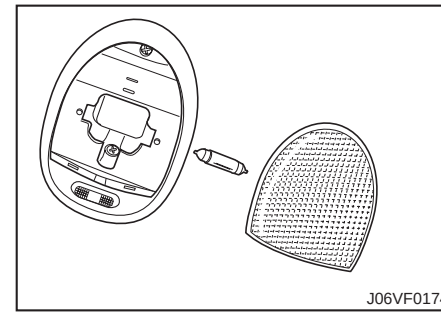
1. Remove the screws and the lamp cover.
2. Turn the bulb socket anticlockwise to remove it.
3. Pull the bulb out of the socket.
4. Reverse the steps to install a new bulb.


J06VF0175

BULB REPLACEMENT cont.

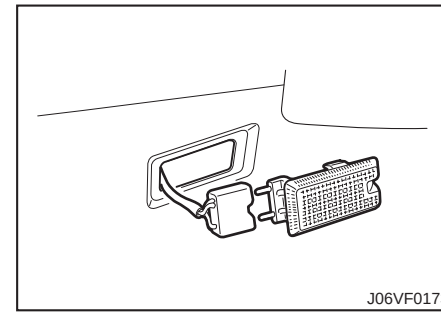
Dome lamp/reading lamp

1. Use a flat-blade screwdriver to pry the lens away from the headliner.
2. Remove the bulb.
3. Reverse the steps to install a new bulb.


J06VF0174

Luggage/rear compartment lamp

1. Use a flat-blade screwdriver to pry the lamp assembly from the housing.
2. Remove the bulb.
3. Reverse the steps to install a new bulb.


J06VF0173

Bulbs to be changed by a Holden Dealer

- Glovebox lamp.

CHAPTER 7

Weekly checks

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*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

MISCELLANEOUS CHECKS

As well as taking your vehicle to be serviced (refer to the *Maintenance schedule* in the Service/warranty booklet) there are a few simple, weekly checks the owner (or nominee) is recommended to make. These are shown on the following pages.

WARNING

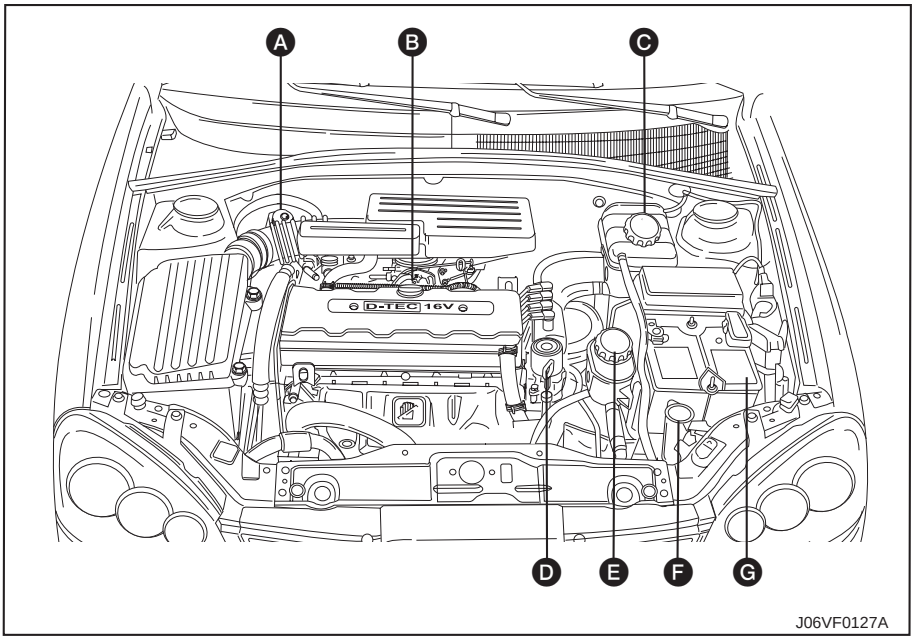
- The engine cooling fan can start working unexpectedly, even when the engine is not running. To avoid injury from the fan, ensure the ignition switch is in the LOCK position, so the fan can not start operating.
- Electronic ignition systems have a high ignition power. Do not touch the ignition system; this could be highly dangerous.

The following checks should also be regularly done to ensure safety of your vehicle:

- All exterior lights are working and their appropriate interior indicators illuminate.
- Mirrors and glass are clean and not scratched.
- Aim of water on the windscreen is satisfactory.
- Condition of the wipers is satisfactory.
- The demister operates.
- The horn works.
- Condition and operation of all the seatbelts. Check if the buckles are clean and operating correctly. Remember that seatbelts must never be worn twisted.

CHECK LOCATIONS

UNDER BONNET LAYOUT



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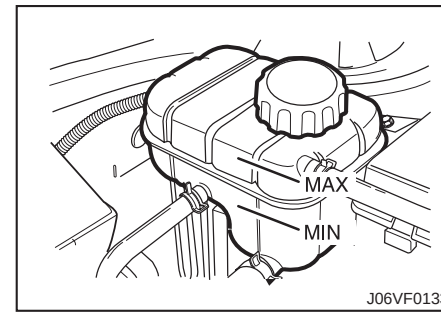
ENGINE COOLANT LEVEL

To check engine coolant level

The level of the coolant should be checked weekly. This is simply a matter of looking at the level in the plastic container, called the radiator reservoir tank.

Check the level of the coolant and replenish the radiator reservoir tank as necessary. When the engine is cool, if the level of the coolant in the radiator reservoir tank is found to be lower than the **MIN** line, check the cooling system for leaks, then replenish to bring the level up to the **MAX** line.



WARNING
- Do not over fill the radiator reservoir tank.
- Only use specified coolant. Refer to *Specifications* in chapter 8. Do not mix different coolants as this may damage the engine cooling system.
- Remove the radiator reservoir tank filler cap only.
- Always check the coolant level when the engine is cold. Steam and scalding liquids from a hot cooling system can blow out and cause serious burns.

To add engine coolant

If the radiator reservoir tank requires topping up, first pre-mix a solution of 50 % coolant (refer to *Specifications* in chapter 8) and 50 % water.

Ensure the ignition is switched off.

Undo the cap on the top of the radiator reservoir tank, add the pre-mixed solution and secure the cap.

WARNING
Do not spill coolant on the vehicle's exterior surfaces. It can damage the paintwork. If you do, wash it off immediately.

Failure to use the coolant meeting Holden's specification or maintaining the specified concentration may result in voiding your warranty.

In emergency situations, plain water may be used temporarily until the correct coolant is obtained as soon as possible from the nearest Holden Dealer.

The specified coolant works in three ways: it contains special corrosion inhibitors, it helps the cooling system in hot weather by increasing the boiling point and it protects against freezing down to -30 °C, provided the correct concentration is maintained.

If you regularly have to top up the cooling system you should contact your Holden Dealer.

WARNING
Corrosion inhibitors and antifreeze fluids are poisonous. Use extreme care when handling. If swallowed seek medical attention.

If the engine overheats, refer to *Engine overheating* in chapter 6.

ENGINE OIL LEVEL

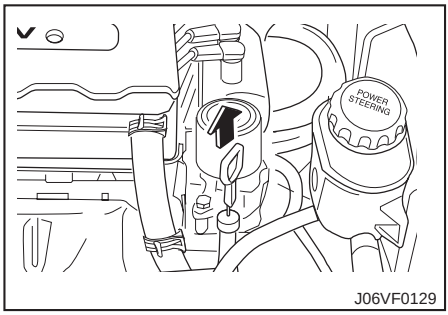
Engine oil must be kept at correct levels to help ensure proper lubrication of the vehicle's engine. Check the oil level at regular intervals, such as when refuelling. If the oil pressure warning lamp comes on, you must check the oil level immediately, or risk causing damage to the engine. Refer to *Warning lamps* in chapter 1A.

Check the engine oil level

Check the oil level while the vehicle is parked on level ground, with the engine switched off and at normal operating temperature.

Before checking the oil level, wait a few minutes after switching the engine off, to allow the oil to settle.

1. Remove the oil dipstick from the oil level tube.
2. Wipe the dipstick clean.
3. Insert the dipstick back into the oil tube as far as it will go.
4. Wait for a few seconds before again removing the dipstick.



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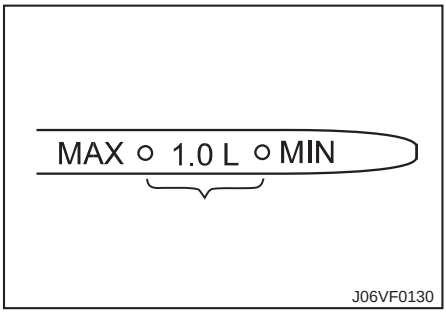
The oil level should be maintained between the two dimples, neither going above the **MAX** mark nor under the **MIN** mark.

Note Remember to insert the dipstick firmly after taking the reading.



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To add engine oil

Use the correct oil for your vehicle. Refer to *Specifications* in chapter 8.

1. Remove the engine oil cap.
2. Add the required amount of oil.
3. Wait a few minutes for the oil to settle, then check the oil level again. When the oil level is correct, replace the oil cap and dipstick, and clean up any spilt oil.

Note Non-detergent and other low quality oils are specifically not recommended. The use of break-in oil, tune up compounds, friction reducing compounds and other supplemental additives are not recommended. Their use will increase costs, may be detrimental to the operation of your vehicle and may void your New Vehicle Warranty, to the extent that Holden considers the non-recommended fluid to have affected the specifications or quality of your vehicle.

ENGINE OIL CONSUMPTION

Every internal combustion engine uses a certain amount of oil, especially when running-in. The engine is dependant on oil for lubricating the cylinder walls, pistons, rings and valve stems. A thin film of oil is left on the cylinder walls, some of which is carried into the combustion chamber and burnt during the combustion process. This also applies to the film of oil on the valve stems which is drawn into the combustion chamber and burnt.

There are several other factors that contribute to the rate of oil consumption in your engine: worn pistons, rings, valve stems and guides; the way in which the vehicle is operated; the quality and grade of oil; the oil level, and dilution of the oil.

Operation of the vehicle

High speed driving and heavy towing increases engine temperature, which lowers oil viscosity, causing more oil to reach the combustion chamber and get burnt away.

Quality and grade of oil

Oil viscosity is a significant factor in oil consumption. If you use an oil which is too thin (low viscosity) your oil consumption will increase. Use only the recommended grades of oil.

Oil level

Maintaining a proper oil level is also an important factor in controlling oil consumption. An over full engine will splash oil onto the cylinder walls in quantities greater than the piston rings can control. This excess oil will be drawn into the combustion chamber and burnt, or may result in aeration of oil in the sump causing damage to the engine.

Dilution

Probably the most prevalent complaint of oil consumption comes from the driver whose vehicle is frequently driven at below normal operating temperatures. The oil becomes diluted by fuel and moisture which settles in the oil pan and may even raise the oil level creating a false reading on the oil level dipstick. For example, in a vehicle that has accumulated 1,500 km of short distance or intermittent city operation and has consumed a normal amount of oil, the level may not have dropped from the full mark, due to dilution. If this vehicle is driven for some distance at highway speeds on a warm day, the dilution elements evaporate, lowering the oil level and the motorist assumes the oil lost has been consumed in the highway operation.

If, after taking into account the above factors, you are still concerned that your engine has excessive oil consumption then you should discuss the situation with a Holden Dealer. Remember that an engine's oil consumption should not be judged until it has run at least 7,000 km.

AUTOMATIC TRANSMISSION FLUID LEVEL*

Automatic transmission fluid level check*

The fluid level for automatic transmission will be checked for you when your vehicle is taken to your Holden Dealer for servicing. Refer to the Service/warranty booklet. The automatic transmission fluid level does not require checking by the driver in between these scheduled services.

BRAKE AND CLUTCH FLUID LEVELS

WARNING
Do not let brake/clutch fluid contact your skin or eyes. If you do get fluid in your eyes or on your skin, wash the affected area thoroughly with soap and water, or hand cleaner.

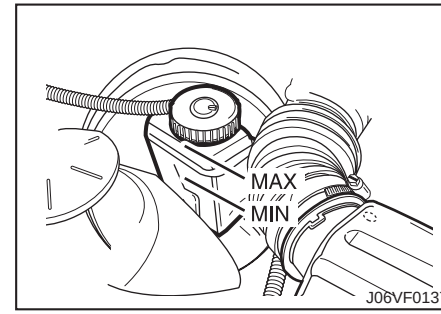
Do not spill brake fluid on the vehicle's exterior surfaces. It can damage the paintwork. If you do, wash it off immediately.

The vehicle is fitted with one reservoir for both the brake fluid and the clutch fluid (on manual transmissions).

The fluid should be kept at the proper level between the **MIN** and **MAX** lines on the reservoir.

If the brake fluid level is low, the brake system warning lamp comes on. Refer to *Warning lamps* in chapter 1A.

Note If your master cylinder requires constant topping up it could indicate that a fault exists. Contact your Holden Dealer immediately.



To add brake/clutch fluid, do the following:

- Wipe the cap and top of the reservoir clean to prevent contamination of the brake/clutch fluid. Contaminated fluid can affect the performance and lead to costly repairs.
- Remove the cap.
- Add enough fluid to bring the level up to the proper mark. The level should be between the **MIN** and **MAX** marks on the reservoir.
- Reinstall the cap.

Use only recommended fluid. Refer to *Specifications* in chapter 8.

POWER STEERING AND WASHER FLUID LEVELS

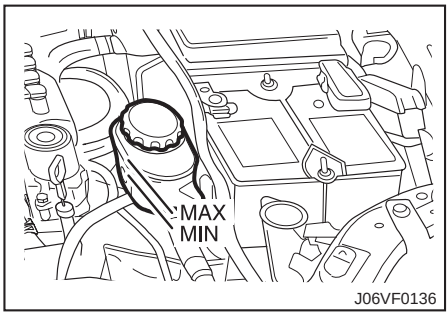
Note Driving your vehicle without the proper amount of power steering fluid can result in system damage requiring costly repair.

Power steering fluid level

The power steering fluid level should be checked and the fluid replaced at the intervals shown in the *Maintenance schedule* of the Service/warranty booklet.

The level should be checked with the ignition switched off.

Check the fluid in the reservoir. The level should be between the **MIN** and **MAX** marks.



If the fluid is below the **MIN** mark, you should add fluid.

To add power steering fluid, do the following:

- Switch off the ignition.
- Wipe the cap and the top of the reservoir clean.
- Remove the cap.
- Add only enough fluid to bring the level up to the proper mark. Do not overfill.
- Replace the cap tightly.
- Clean up any spilt fluid.

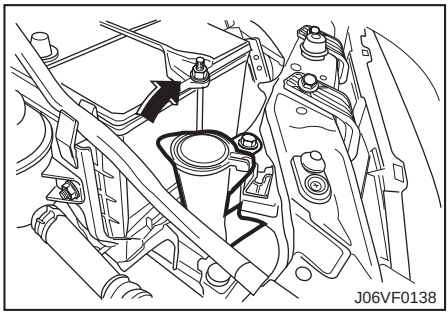
If steering fluid is required, refer to *Specifications* in chapter 8. If you often need to add fluid, see your Holden Dealer.

Washer fluid level

As washer fluid is regularly used, the level in the washer fluid reservoir should be checked and topped up weekly.

For a crystal clear windscreen, use the correct amount of Holden Optikleen. Do not use ordinary soap or detergent as these not only froth up but would also damage the wiper rubbers.

Ensure the cap is secured.



TYRES

Tyre air pressure

Weekly checking of the air pressure of your tyres (including the spare) ensures your safety, as well as reducing fuel consumption and increasing the life of your tyres. See tyre placard for the recommended tyre pressures.

For constant long distance or rough road driving, daily checking is recommended.

If the vehicle is heavily loaded, the recommended pressure for the tyres is increased. As the tyres are operating under greater load, the weekly air pressure check becomes even more important.

Tyre inflation pressure increases when the tyres have been driven more than 2 km. Therefore, the pressure should be checked when the tyres have been stationary for over three hours. If they must be checked immediately after driving, increase the pressure shown on the placard by 10 % relative to the cold tyre inflation pressure.

The inflation pressure in the tyres should be increased according to the load on the vehicle. Therefore, if the vehicle is loaded to half the maximum payload (as shown in chapter 9) then the tyres should be inflated half way between the minimum and maximum pressures given on the tyre placard. Vehicles driven for prolonged periods over rough roads, particularly in outback conditions, should use the cold tyre inflation pressure on the tyre placard for maximum load condition.

Always use a tyre pressure gauge to check the tyres inflation; simply looking at the tyres is not sufficient.

If the pressure is too low, this can result in considerable tyre warm-up and internal damage, leading to tread separation and even to tyre blowout at high speeds. If the pressure is too high, this can result in reduced traction, increased risk of tyre blowout and poor tyre wear.

Remember to replace any valve dust caps or extensions, as this stops dirt and moisture from fouling the valves. When checking the tyre air pressure, take a look at the condition of the tyre tread and inspect for stones or abnormal wear.

Tyre condition, rim condition

Driving over sharp edges can lead to hidden tyre damage and rim damage, which can lead to tyre blowout, drive over edges slowly and at right angles if possible.

When parking, ensure the tyres are not pressed against the edge of the curb.

Check the tyres regularly for: damage, stones, punctures, cuts, cracks, bulges etc. Check the rims for damage. Consult a Holden Dealer, if in doubt.

TYRES cont.

Alignment and balance

Improper wheel alignment can cause the tyres to wear faster and to wear unevenly. It can also cause the vehicle to pull to the left or right.

Out-of-balance wheels and tyres can cause annoying vibration and uneven tyre wear. If you suspect either of the above problems exist, have a wheel alignment and balance check carried out by your Holden Dealer.

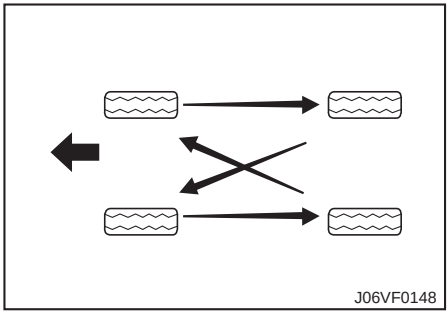
Tyre rotation

Front and rear tyres perform different jobs and can wear differently depending on the types of roads driven, your driving habits, wheel alignment, balance, tyre pressures, etc.

Check the tread depth regularly. If the front tyres have more wear than the rear tyres, have both front wheels rotated with the rear wheels so the tyres with the deeper tread are at the front.

Follow the diagram for the correct rotation pattern.

If the wheels are rotated it is recommended to check the balance at the same time.



TYRES cont.

Replacement and repair

Replacing your factory fitted wheels and tyres with non specified wheels and tyres may affect your warranty as well as your insurance policy. Refer to the tyre placard for tyre size and load rating. Using a different size or type of tyre may affect ride, handling, speedometer, vehicle ground clearance, tyre clearance or snow chain clearance.

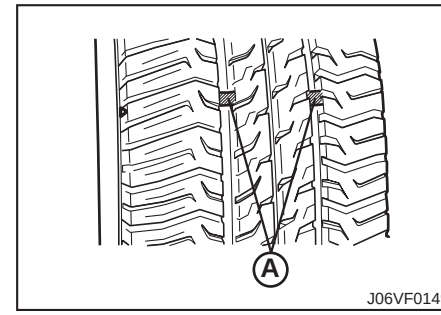
Take care when using tyres with heavy treads, including tyres made for better grip in the wet. At sustained high speeds, this type of tyre will run at higher temperatures than standard tyres and consequently should only be operated within the limits recommended by the manufacturer. Any doubts about the tyres on your vehicle should be referred to your Holden Dealer.

New tyres should be fitted in pairs to the front. If replacing only one tyre, it should be paired on the same axle with the least worn of the other three.

The tyres have tread wear indicators (A) which tell you when a tyre has 1.6 mm or less of tread left.

You should replace your tyres when:

- The tyres are worn to the point where the tread indicators appear, or the cord or fabric is showing. The tyres originally fitted to your vehicle have built-in tread indicators which show up when the tyres are worn.
- The tread or sidewall is cut, split, or cracked deep enough to expose the cord or fabric.
- The tyre has a bump or bulge in it, indicating some kind of internal damage.

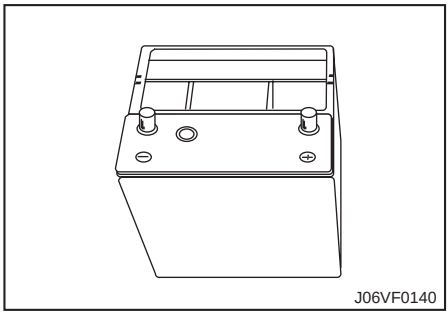


- The tyre has a puncture, cut or other damage which can not be repaired because of the size or location of the damage.

Do not attempt to drive on the flat tyre more than is necessary to stop safely. Driving even a short distance can damage the tyre and wheel beyond repair. Tyres which have been repaired or retreaded cannot be driven safely at high speeds. Therefore, their use is not recommended.

BATTERY

Battery maintenance


J06VF0140

Your vehicle is fitted with a maintenance free battery, which means the fluid level does not need to be checked.

To extend the life of your battery, do the following:

- Keep the battery mounted securely.
- Keep the top of the battery dry and clean.
- Keep the terminals and connections clean, tight and coated with petroleum jelly or terminal grease.
- Immediately rinse off any spilled electrolyte using a solution of water and baking soda.
- If the vehicle is not going to be driven for an extended period of time, disconnect the cable from the negative (-) terminal of the battery to prevent discharge, and charge the battery every six weeks.

WARNING

- Batteries emit an explosive gas mixture which may be ignited by sparks or naked flames. You should therefore keep sparks and flames away from the battery at all times. Never smoke near a battery.
- Batteries contain sulphuric acid. If acid contacts skin or clothing, flush immediately with a lot of water. In case of eye contact, flush with a lot of water and contact a doctor. Battery acid also damages paint and fabrics. To minimise damage, wash off immediately.
- Take care with all metal objects and tools including items you may wear (e.g. jewellery, ring and metal watch bands) near battery terminals. Metal objects that touch battery terminals can cause sparks and serious heat burns to the user or wearer.
- Never disconnect the battery when the engine is running.
- Always connect the red cable to the positive (+) battery terminal and the black cable to the negative (-) battery terminal. Connecting the battery cables to the wrong terminals can result in injury and damage to the vehicle.

NOTES

CHAPTER 8

Specifications

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Identification labels 8-4

*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

SPECIFICATIONS

Engine type	1.8 Litre DOHC
Piston displacement	1796 cc
Compression ratio	9.7 : 1
Bore	80.5 mm
Stroke	88.2 mm
Power kW@ rpm	Refer to: holden.com.au
Torque Nm@ rpm	Refer to: holden.com.au
Oil specification	SAE 5W or 10W/30 SL GF-3
Refill oil capacity (including filter)	3.75 Litres
Fuel tank capacity	60 Litres
Coolant capacity	7.5 Litres
Coolant specification	50% clean fresh water and 50% Dexcool anti-freeze coolant, conforming to specification number GM6277M
Brake fluid	DOT-3 or DOT-4 brake fluid
Power steering fluid	Dexron® III
Battery specification	12 volts, 55 amp hours
Battery for remote control	CR 16 16

SPECIFICATIONS cont.

Transmission

Transmission	**5 speed manual transmission**	**4 speed automatic transmission**
Transmission fluid type	SAE 75W/90	Esso ATF LT 71141
Clutch fluid type	DOT-3 or DOT-4	–

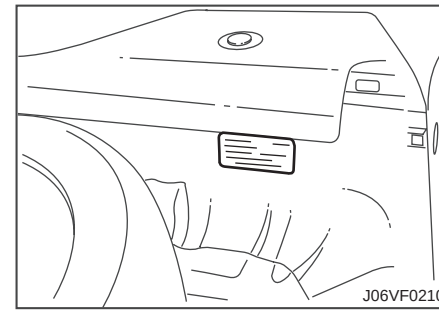
Dimensions

Vehicle		**Sedan**	**Hatch**	**Wagon**
Overall length		4515 mm	4295 mm	4580 mm
Overall width		1725 mm		
Overall height at kerb weight		1445 mm	1445 mm	1500 mm
Track	Front	1480 mm		
	Rear	1480 mm		
Wheel base		2600 mm		

IDENTIFICATION LABELS

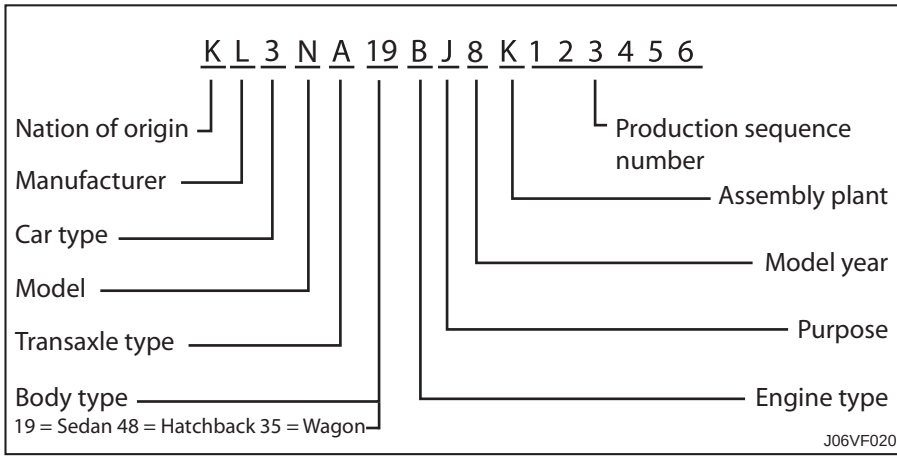
Compliance label

The compliance label is located in the rear luggage compartment in the spare wheel well, adjacent to the spare wheel on the right-hand side.



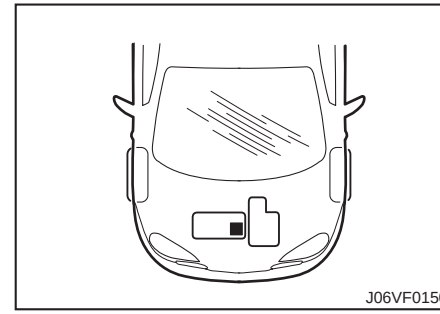
Breakdown of vehicle identification number

The Vehicle Identification Number (VIN) is broken down the following way:



Engine number

Individual identification numbers are stamped onto the engine block.

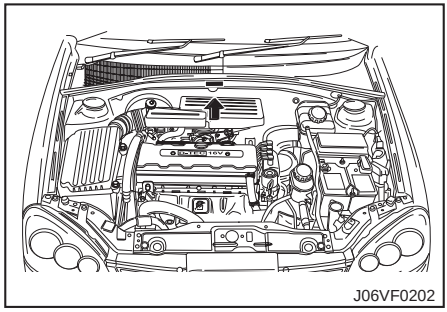


IDENTIFICATION LABELS cont.

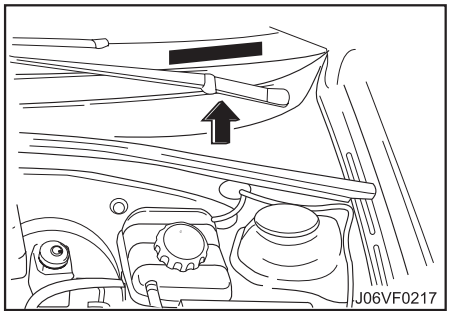
Vehicle identification number (VIN)

This is the legal identifier for your vehicle, and is used for the identification of spare parts.

The vehicle identification plate is located inside the engine bay, on the bulkhead.

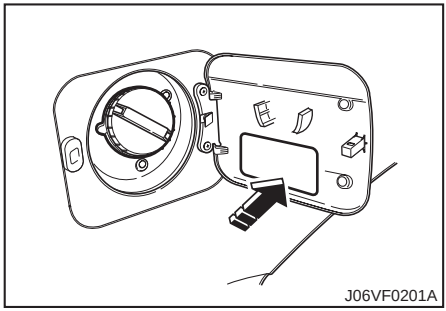

J06VF0202

The vehicle identification plate is also visible through the windscreen on the top left hand side of the dashboard.


J06VF0217

Fuel label

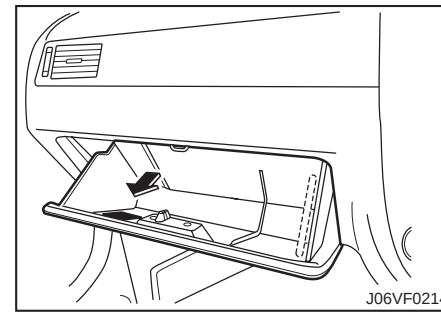
The fuel labels are located on the inside of the fuel filler door.


J06VF0201A

IDENTIFICATION LABELS cont.

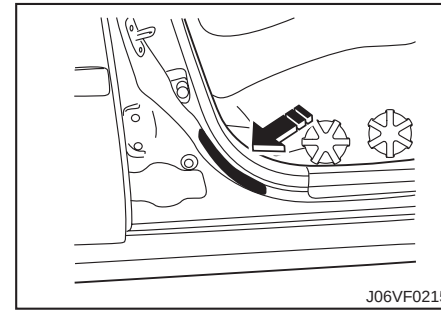
Tyre label (sedan and hatch)

The tyre placard is located in the glovebox for sedan and hatch model vehicles.



Tyre label (wagon)

The tyre placard is found on the lower part of the 'B' pillar on the driver side on wagon vehicles.



CHAPTER 9

Tow and load

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*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

LOADING THE VEHICLE

MAXIMUM VEHICLE PAYLOADS

Overloading is a safety hazard and could also shorten the life of the vehicle. The typical recommended carrying capacity of the vehicle is as shown in the table below.

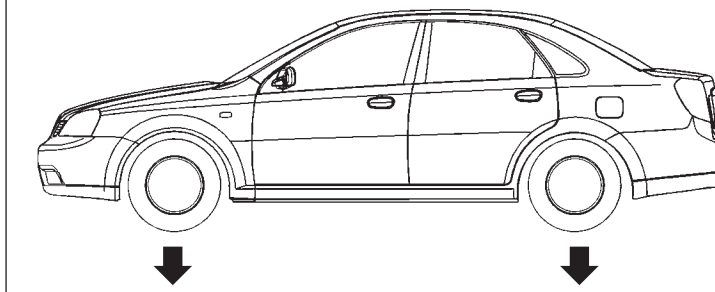
Do not exceed the maximum axle loads shown below in the diagram, including the weight of any options or accessories fitted to the vehicle.

Remember to take the roof rack load into account when determining the rear axle load.

If unsure, the vehicle should be weighed at a weighbridge.

Vehicle	Occupants (at an average of 68 kg each)	Luggage (kg)	Total load (kg)
Sedan	5	68	408
Hatch	5	68	408
Wagon	5	68	408

MAXIMUM FRONT AND REAR AXLE LOADS



Vehicle	Front axle load (kg)	Rear axle load (kg)
Sedan	920	845
Hatch	920	845
Wagon	920	950

LOADING THE VEHICLE cont.

NOTES ON LOADING THE VEHICLE

- Place heavy objects in the rear luggage compartment as far forward as possible against the rear seat backrests. When stacking objects, place the heavier objects at the bottom. Unsecured objects in the rear luggage compartment could be thrown forward with great force during heavy braking or in an accident.
- Heavy objects can slip when the vehicle is braking heavily or driven around a bend, and the handling of the vehicle may change.
- Do not place objects in front of the rear window or on the dashboard above the instrument panel. They are reflected in the glass, obstruct the driver's view and may be thrown through the vehicle in the event of heavy braking.
- Driving with a roof load increases the sensitivity of the vehicle to cross winds and affects vehicle handling owing to the higher centre of gravity of the vehicle.
- Do not place objects in the area where the airbags inflate. Objects can cause injury if the airbags are deployed.

ROOF RACKS

Distribute the load evenly and secure tightly with straps so that it cannot slip. Roof rack loads alter the handling of a vehicle, due to a change in the centre of gravity. When carrying loads on the roof rack, avoid hard braking, abrupt swerving or sharp steering.

For occupant safety, and to avoid damaging the vehicle's roof, refer to your Holden Dealer for the approved rack system for your vehicle.

WARNING
The load, including the weight of the roof rack, must not exceed 75 kg for wagon and 50 kg for sedan and hatch. Distribute the load evenly.

Note Remember the weight of the roof rack and its load must be included when calculating the total load.

CARRYING PORTABLE GAS CYLINDERS IN VEHICLES

WARNING
Gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around, and where possible, placed in the load area of the vehicle. It is recommended that if gas cylinders are frequently transported, a purpose built carrying compartment be used. Transportation of gas cylinders is regulated by legislation in some States.

TOWING

TRAILERS

The word ‘trailer’ is used throughout this section and is intended to include all types of towed vehicles, such as a caravan, boat trailer or any other special purpose trailer.

TOWING

The vehicle is designed primarily as a passenger vehicle, so handling, durability and economy may be affected by towing a trailer.

Refer to the table further on in this chapter for the mandatory equipment required for the weight you are towing. Your Holden Dealer will help supply and install towing equipment to suit your requirements.

OVERLOADING

Never exceed the loads given for the towing equipment fitted to the vehicle. For your safety and the vehicle’s durability, all essential equipment must be fitted. Otherwise you may void the New Vehicle Warranty, to the extent that Holden considers the overloading or missing equipment to have affected the specifications or quality of the vehicle.

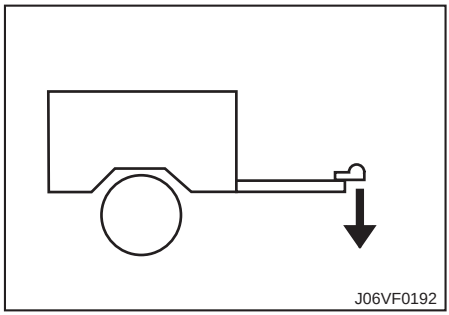
MAXIMUM TOWING CAPACITIES

Without trailer brakes	610 kg
With trailer brakes	1,200 kg

WARNING
Holden towing equipment is recommended where it is available. Where it is not available, no recommendation is made as to the make of equipment to be used. Holden will not accept liability for defects occurring in towing equipment not marketed by Holden or for defects in the vehicle arising from the use of such equipment or for loss or injury caused by use of such equipment. The use of such equipment may void your New Vehicle Warranty to the extent that Holden considers the overloading or missing equipment to have affected the specifications or quality of your vehicle. It is not advisable to mix and match different brands of towing equipment, as equipment is usually designed as an integrated package.

TOWING cont.

Recommended procedure for attaching a trailer



When a trailer is hitched to the vehicle, it places a weight on the tow bar. This weight is called the ‘tow ball load’.

If the tow ball load is too light or too heavy, the steering and handling of the vehicle may be affected.

As a general guideline, for single axle trailers, the ball load should be approximately 10 % of the loaded trailer mass. For heavy trailers with more than one axle, the ball load should be in the range of 5 % - 10 % of the loaded trailer mass.

Note If the tow ball load exceeds 75 kg refer to mandatory equipment in the *Towing equipment* table further on in this chapter.

The tow ball load can be adjusted by correctly packing the contents of the trailer. For example, by moving items forwards or backwards within the trailer so as to change the balance of the trailer.

Check the tow ball load before coupling the trailer to the towing vehicle.

All towing (before you begin)

Axle loads must not be exceeded when the tow ball load is included. Refer previously in this chapter for maximum axle loads. If maximum axle loads are exceeded, sufficient weight should be removed from the rear of the vehicle and transferred onto the trailer.

Ensure the weight of the packed trailer is not greater than the towing capacity of the Holden approved tow bar package fitted to the vehicle.

TOWING cont.

TOWING EQUIPMENT

Tow load	Tow ball load	Mandatory equipment
Up to 610 kg	Less than or equal to 75 kg.	Holden 1,200 kg rated tow bar.
		Holden trailer wiring harness.
Up to 610 kg	More than 75 kg.	Holden 1,200 kg rated tow bar.
		Holden trailer wiring harness.
		Load distribution hitch.
Between 610 kg and 1,200 kg	Less than or equal to 75 kg.	Holden 1,200 kg rated tow bar.
		Holden trailer wiring harness.
		Electric or hydraulic brakes on the trailer.
Between 610 kg and 1,200 kg	More than 75 kg.	Load distribution hitch.
		Holden 1,200 kg rated tow bar.
		Holden trailer wiring harness.
		Electric or hydraulic brakes on the trailer.

Note

1. A load distribution hitch transfers load to the vehicles front wheels aiding brake performance. This also enables more load to be carried in the vehicle without exceeding the rear axle load limit.
2. At no time may the maximum towing capacity exceed the maximums specified. Refer to *Maximum towing capacity* previously in this chapter.
3. At no time may the total front or rear axle load exceed the maximums specified. Refer to *Loading the vehicle* previously in this chapter.

TOWING cont.

TOWING PRECAUTIONS

- When heavily loading the vehicle or when towing, the tyres should be inflated to the maximum recommended pressure. Refer to *Identification labels* in chapter 8 for tyre placard location.
- Tighten the tow ball retaining nut to 140 Nm (Newton metres) and check the torque frequently.
- Vehicles handle differently when towing. It is a good idea to make a couple of short distance trips with the trailer before setting off on a longer journey.
- Have the vehicle correctly maintained and serviced.
- Have the trailer maintained and serviced, with particular attention given to the condition of the brakes, tyres, suspension, wheel bearings, towing coupling and lighting.
- Use an extended-arm mirror on both sides of the vehicle.
- Headlamps may need re-aiming after the loaded trailer has been hitched, particularly if a load distribution hitch is not used.
- Use a lower gear, rather than the brakes, when descending steep hills.
- Do not use axle-mounted hitches. They can cause damage to the axle housing, wheel bearings, wheels and tyres.
- Ensure that the tow bar does not obscure the rear licence plate. If necessary, remove the tow bar tongue when it is not required for towing.
- If a tow bar is removed:
  - Be certain to have any mounting holes in the underbody properly sealed to prevent the possible entry of exhaust fumes, dust and water.
- Trailer Brakes:
  - Trailer brakes are mandatory on trailers weighing 610 kg and over when loaded. The brakes on the trailer must be designed to cope with the braking requirements of that trailer under all towing conditions, without adversely affecting the brakes on the vehicle.

Running-in when towing

It is recommended that the new vehicle be driven for at least 1,500 km before towing. If the vehicle must tow before this, do not exceed 80 km/h. The same applies if the vehicle is fitted with a new or reconditioned engine or transmission.

Vehicle maintenance

More frequent vehicle maintenance is required when using the vehicle to tow. Refer to the Service/warranty booklet in the vehicle's glovebox.

NOTES

CHAPTER 10

Cleaning

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*The asterisk signifies equipment options not in all vehicles; model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

INTERIOR CLEANING

WARNING
Many cleaners may be toxic, flammable or may damage the interior. When cleaning the interior, avoid volatile cleaners such as: acetone, lacquer thinners, enamel reducers, nail polish removers, or cleaners such as: laundry soaps, bleaches or reducing agents. Never use carbon tetrachloride, petrol or naphtha for any cleaning purpose. Be sure the vehicle is well ventilated while using any cleaners and always follow the cleaning manufacturer's recommendations.

Care and cleaning of upholstery

Dust and dirt which accumulates on upholstery should be removed every few weeks; more often with constant driving. This can be done readily with a vacuum cleaner. Before attempting to remove spots and stains, it is necessary to determine as accurately as possible:

- The type of fabric.
- The nature and age of the stain.
- The effect of the stain removal agent upon the colour, structure and general appearance of the upholstery.

It is essential to remove stains as soon as possible after they have been made. If they are allowed to remain on the fabric for any length of time they may become oxidised or set, and removal becomes difficult, if not impossible.

Cleaning PVC coated fabrics

Vinyl (PVC) coated fabrics are used for seating, head linings and auxiliary trimming. The grades used vary according to their function. PVC fabrics are generally made by coating fabric with synthetic resins. Care of PVC fabrics is a relatively simple but important matter. The surface should be wiped over with a dry cloth during the regular cleaning of the vehicle.

Should dirt accumulate and become embedded in the material pattern, the following procedure is recommended:

1. Using lukewarm water and soap, work up thick suds on a piece of cheesecloth, and apply to the surface. A soft bristle brush can be used to remove stubborn stains or dirt embedded in the grain of the material.
2. Repeat using only a damp cloth and no soap.
3. Wipe dry with a soft cloth. The above cleaning instructions also apply to the rubber floor mats.

INTERIOR CLEANING cont.

Cleaning cloth trim

The seats in your vehicle are upholstered with cloth, the following instructions should be observed:

- Most loose dirt and dust can be removed by a vacuum cleaner or soft brush.
- Do not use a whisk broom or a coarse hair brush.
- If normal soiling should take place it is recommended to sponge the fabric lightly with warm water containing a detergent and a small amount of ammonia. The fabric should then be rubbed lightly, and if necessary, sponged again to remove anything stubborn. Soak up excess fluid with a dry cloth.

Vehicles with airbags

Use only a dry cloth or mild cleaner to clean the steering wheel and instrument panel. Do not use any aggressive cleaning agents.

Cleaning carpet

Thoroughly brush or vacuum the carpet. In many instances the carpet may require no further cleaning. If the carpet is extremely soiled, thoroughly vacuum it to remove loose dirt then, using a good quality carpet cleaner, clean approximately one square foot at a time. After each area is cleaned, remove as much of the cleaner as possible with a vacuum cleaner.

Cleaning seatbelts

Cleaning of seatbelts can be carried out by using a mild non-abrasive soap and lukewarm water. After washing be sure to thoroughly sponge the washing solution out of the belts.

WARNING
Do not bleach or dye seatbelts since this may severely weaken them.

Cleaning interior glass

The interior glass area of the vehicle should be cleaned using Holden Glass Cleaner with a clean soft cloth. Care must be taken when cleaning inside the rear window, not to damage the demister.

Never use abrasive cleaners on any vehicle glass, as they may cause scratches.

EXTERIOR CLEANING

CARING FOR PAINT

To help preserve the shiny new vehicle finish, special attention should be given to correctly treat those conditions that can damage the paint.

Road bloom: If, over a long period of time, oils, dirt, exhaust and other pollutants are allowed to build up, they may combine to affect the paint finish.

Etching: Tree sap, bird droppings, salt water and other natural deposits can, if allowed to stay on the paint, leave an etching or scarring.

Pitting: Tar spots and some industrial fallout can react chemically and may cause pitting to the surface of the paint.

Paint inspection

Regular inspection of the vehicle should be made for scratch marks, cracks or damaged areas, all of which could develop rust. Any deep scratches, cracks or break-down in the finish should be repaired without delay. Care should be taken to ensure that any rusting is counteracted immediately, otherwise rust 'creep' will extend beyond the damaged area, particularly in tropical or coastal areas, where the moist, or salt-laden air accelerates rusting. The paint finish of the vehicle gives a very high degree of protection against the weather, but it should be realised that wear and deterioration occur when the vehicle is exposed to corroding elements for prolonged periods. The vehicle therefore should be garaged whenever possible.

To prevent damage of the paint surface, foreign matter should always be removed as soon as possible. Due to the acidic content, it is recommended that foreign matter such as bird droppings be removed within 24 hours.

The way the paint keeps its condition over time can be assisted by you. The easiest way to keep that paint looking bright and shiny is to keep it clean. A wash once a week will do wonders. However, it must be done correctly.

Washing your vehicle

- Never use an automatic wash that has anything touching the paint other than water.
- Wash your vehicle once a week to remove any build up of road grime that may have been deposited on your paint.
- Find a cool, shady spot to wash it. Never wash it in direct sunlight.
- Hose the vehicle down from top to bottom with lots of cold water. This removes any grit or other loose particles and substances. Do not use a sponge or cloth yet.
- Fill a bucket with lukewarm water and add no more than 2 capfuls of gentle detergent. Do not use hot water, strong soap or chemical detergents.
- To remove bird droppings on paint, soak with a wet sponge for several minutes before washing off. If still evident, use a solution of one litre of water and 110 grams of dissolved baking soda (Bicarbonate of Soda). Flush the washed parts with clean water.
- Starting with the roof, use a clean sponge to clean a small section at a time. Do not allow liquid to dry before rinsing off that section with clean water. When you have completed each section, rinse the whole vehicle again with cold water.
- Dry the clean vehicle thoroughly with a good quality Chamois.

EXTERIOR CLEANING cont.

WARNING
Care should be taken when moving the vehicle after washing, in case water has affected the brakes. Applying the brakes lightly will indicate if they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with a clear area ahead, until brake performance returns to normal.

Removing stains, such as grease, oil and tar spots

Just washing your vehicle regularly means that most of the harmful substances deposited on the paint will be removed before they can cause permanent damage. However, some substances are not easy to remove. So if you notice stains on the paint, make sure that you remove them at the earliest possible opportunity.

Grease and oil, and even tar if it is fresh, can be removed from the paint with a little kerosene or turpentine. As a precaution against staining, wash and polish the area as soon as possible after the stain has been removed.

A rubbing or cutting compound can be used after a normal wash. But this should never be done on a regular basis because it removes paint.

WARNING
- Some chemical cleaners used for removing road oils and tars from painted surfaces have been found to be detrimental to automotive paint.
- If petrol is spilt on the paint when refilling, flush off immediately with clean water, as petrol has a tendency to stain or soften the new paint finish during the weathering out period, particularly when the vehicle is exposed to high temperatures.
- Petrol must not be used to clean any painted or plastic surfaces.
- Do not spill coolant on the vehicle's exterior surfaces. It can damage the paintwork. If you do, wash it off immediately.

Polishing

Under normal circumstances the paint does not need polishing to retain its shine. A weekly wash is sufficient. However, the use of a Polymer Glaze about every three months will reduce the effects of road bloom by removing natural contaminants which can build up on the paint.

Do not attempt to apply a polish without first washing. This will ensure that all the loose grit, surface dirt, dust or grease etc, is removed.

EXTERIOR CLEANING cont.

VENTILATION SYSTEM INTAKE

The intake area between the bonnet and the windscreen may collect leaves, which will impair air flow into the vehicle.

It is recommended to clear this area of debris whenever you wash your vehicle.

UNDER VEHICLE WASHING

Your vehicle has a factory-applied PVC undercoating in the wheel arches (including longitudinal members) which provides permanent protection and needs no special maintenance. The surfaces of the vehicle underside not covered by PVC are provided with a durable protective wax coating. Once a year, preferably before the start of the cold season the wax coating and PVC coating should be checked and, if necessary, restored to perfect condition. Commercial bitumen and rubber materials can damage PVC coating. Have all work on the underbody performed by a Holden Dealership, as it requires knowledge of the specified materials and experience concerning their application.

The underbody should be washed following the end of the cold weather season to remove any dirt adhering to the underbody, since this may also contain salt.

TYRES

Sponging with cold water is all that is necessary for normal cleaning. Oil and grease should be removed with soap and water or detergent. For tar or other substances, a mild abrasive, such as mechanic's hand soap or kitchen cleaning powder, may be used if necessary. Thoroughly wash the tyres with water to finish. Petrol must not be used for cleaning tyres.

ALLOY WHEELS

To preserve the original appearance of alloy wheels, keep them clean and free from build up of road dirt. Do not use abrasive cleaners on alloy wheels.

EXTERIOR CLEANING cont.

GLASS CLEANING – GENERAL

Special care should be taken to avoid scratching the glass. If it is cleaned at the same time as the rest of the vehicle, there is a possibility that particles of grit will cause fine scratches. Flush off any mud on the glass when washing the body, but leave the final cleaning and polishing until afterwards. Use Holden Glass Cleaner and wash each section of glass in turn, making sure the water, its container and the sponge are quite clean and free from grit. Clean old linen cloth is better than new material for polishing glass.

Windscreen

It is important to keep the windscreen clean so the wiper blades may be as effective as possible. Old wiper blades can cause windscreen scratching and so should be regularly inspected and replaced.

Abrasive cleaners should never be used to clean glass as they can cause scratches, impairing night vision. After the windscreen has been cleaned with a wet sponge it should be wiped over with a soft, lint free cloth or chamois.

It is recommended that Holden Optikleen be added to the windscreen washer reservoir.

Wiper blades

Oil and road scum thrown up on the windscreen will cause smearing when the wipers are switched on, when the dirt is transferred onto the wiper blades. Many owners, while they methodically clean the windscreen glass, omit to clean the wiper blades and consequently smearing of the glass reappears immediately after the wiper blades are used. The blades can be cleaned by lifting them off the windscreen and cleaning with Holden Optikleen and a clean cloth.

Do not operate the wiper blades by hand as this could damage the wiper drive mechanism.

If the wiper blades are used to clean dust and dirt from the windscreen in dry conditions always use the washer system first to wet the windscreen. Ensure the windscreen washer reservoir is not empty.

Should the wiper blades be frozen to the windscreen, they must be lifted off and freed by hand before switching on the wipers.

CLEANING PRODUCTS

Part number	Size	Description	Usage
92145132	237 ml	Quick and Easy Speed Finish	Seals in a deep, lustrous glazed finish. Long life protection from oxidation, salt and weather damage.
92145418	437 ml	Quick and Easy Speed Finish	Seals in a deep, lustrous glazed finish. Long life protection from oxidation, salt and weather damage.
92145130	237 ml	All Purpose Cleaner	Cleans and deodorises velour, most vinyl upholstery, roof linings, mats and carpets.
92145416	437 ml	All Purpose Cleaner	Cleans and deodorises velour, most vinyl upholstery, roof linings, mats and carpets.
92145133	237 ml	Glass Cleaner	Cleans all glass surfaces.
92145419	437 ml	Glass Cleaner	Cleans all glass surfaces.
92140005	500 ml	Optikleen	Windscreen washer solvent.
92140004	5 ml	Optikleen Sachet	Windscreen washer solvent; 1 sachet per washer bottle refill.
92145129	237 ml	Hi Suds Car Wash	Cleans vehicle exterior.
92145415	437 ml	Hi Suds Car Wash	Cleans vehicle exterior.
92145131	237 ml	Vinyl and Trim Dressing	Seals and protects vinyl upholstery and plastic trim.
92145417	437 ml	Vinyl and Trim Dressing	Seals and protects vinyl upholstery and plastic trim.
92145135		Chamois	Cloth for wiping off excess water from the vehicle's exterior after washing and rinsing.
92145134		Handle Grip Sponge	Sponge for washing the vehicle.
92145136		Micro fibre Glass Cleaning Cloth	Cloth for cleaning all glass surfaces.
92145137		Micro fibre General Purpose Cleaning/ Polishing Cloth	Cloth for general purpose cleaning/ polishing.

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